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Material Safety Data Sheet

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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M Imperial(TM) Wetordry(TM) Paper - Aluminum Oxide

MANUFACTURER: 3M

DIVISION: Coated Abrasives Division

ADDRESS: 3M Center
St. Paul, MN 55144-1000

EMERGENCY PHONE: 1-800-364-3577 or (651) 737-6501 (24 hours)

Issue Date: 06/08/2003

Supersedes Date: 11/14/2002

Document Group: 08-8981-6

Product Use:
Specific Use: Coated Abrasive

SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
CURED ADHESIVE	Unknown	25 - 50
PAPER BACKING	Unknown	20 - 45
ALUMINUM OXIDE	1344-28-1	10 - 30

Products included are: 3M211Q, 3M213Q

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Odor, Color, Grade: Solid abrasive product, no odor.

General Physical Form: Solid

Immediate health, physical, and environmental hazards: being abraded must be considered.

When determining the degree of health hazards, the material

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:

Mechanical eye irritation: Signs/symptoms may include pain, redness, tearing and corneal abrasion.

Dust created by cutting, grinding, sanding, or machining may cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin Contact:

Mechanical Skin irritation: Signs/symptoms may include abrasion, redness, pain, and itching.

Inhalation:

Dust from cutting, grinding, sanding or machining may cause irritation of the respiratory system. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Prolonged or repeated exposure may cause:

Fibrosis: Signs/symptoms may include breathlessness, chronic dry cough, phlegm production, wheezing, and changes in lung function tests.

Ingestion:

Physical Blockage: Signs/symptoms may include cramping, abdominal pain, and constipation.

SECTION 4: FIRST AID MEASURES

4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Eye Contact: Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.

Skin Contact: Wash affected area with soap and water. If signs/symptoms develop, get medical attention.

Inhalation: If signs/symptoms develop, remove person to fresh air. If signs/symptoms persist, get medical attention.

If Swallowed: Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

SECTION 5: FIRE FIGHTING MEASURES**5.1 FLAMMABLE PROPERTIES**

Autoignition temperature	<i>Not Applicable</i>
Flash Point	<i>Not Applicable</i>
Flammable Limits - LEL	<i>Not Applicable</i>
Flammable Limits - UEL	<i>Not Applicable</i>

5.2 EXTINGUISHING MEDIA

Ordinary combustible material. Use fire extinguishers with class A extinguishing agents (e.g., water, foam).

5.3 PROTECTION OF FIRE FIGHTERS

Special Fire Fighting Procedures: Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

Unusual Fire and Explosion Hazards: Not applicable.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: Not applicable.

In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.

SECTION 7: HANDLING AND STORAGE**7.1 HANDLING**

This product is considered to be an article which does not release or otherwise result in exposure to a hazardous chemical under normal use conditions. Avoid breathing of dust created by cutting, sanding, grinding or machining. For industrial or professional use only.

7.2 STORAGE

Not applicable.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1 ENGINEERING CONTROLS**

Use in a well-ventilated area. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits and/or control dust, fume, or airborne particles. If ventilation is not adequate, use respiratory protection equipment. Provide appropriate local exhaust for cutting, grinding, sanding or machining.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Avoid eye contact.

Wear safety glasses to prevent eye contact with dust created from grinding substrate.

8.2.2 Skin Protection

Not applicable.

Wear gloves to prevent skin contact with dust created from grinding substrate.

8.2.3 Respiratory Protection

Avoid breathing of dust created by cutting, sanding, grinding or machining.

Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half mask R95 particulate respirator, Half mask or full facepiece air-purifying respirator with N100 particulate filters, Half facepiece or fullface air-purifying respirator with P100 particulate filters, Half facepiece or fullface air-purifying respirator with P95 particulate filters, Half facepiece or fullface air-purifying respirator with N95 particulate filters. Consult the current 3M Respiratory Selection Guide for additional information or call 1-800-243-4630 for 3M technical assistance.

8.2.4 Prevention of Swallowing

Not applicable.

8.3 EXPOSURE GUIDELINES

<u>Ingredient</u>	<u>Authority</u>	<u>Type</u>	<u>Limit</u>	<u>Additional Information</u>
ALUMINUM OXIDE	ACGIH	TWA - specific form	10 mg/m3	as particulate; Table A4
ALUMINUM OXIDE	CMRG	TWA	1 fiber/cc	Table Z-1
ALUMINUM OXIDE	OSHA	TWA - respirable	5 mg/m3	
ALUMINUM OXIDE	OSHA	TWA, Vacated - as dust	10 mg/m3	Table Z-1
ALUMINUM OXIDE	OSHA	TWA - as total dust	15 mg/m3	

VAC Vacated PEL: Vacated Permissible Exposure Limits [PEL] are enforced as the OSHA PEL in some states. Check with your local regulatory agency.

SOURCE OF EXPOSURE LIMIT DATA:

ACGIH: American Conference of Governmental Industrial Hygienists

CMRG: Chemical Manufacturer Recommended Guideline

OSHA: Occupational Safety and Health Administration

AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Odor, Color, Grade:
General Physical Form:
Autoignition temperature
Flash Point

Solid abrasive product, no odor.
 Solid
Not Applicable
Not Applicable

Flammable Limits - LEL	<i>Not Applicable</i>
Flammable Limits - UEL	<i>Not Applicable</i>
Boiling point	<i>Not Applicable</i>
Vapor Density	<i>Not Applicable</i>
Vapor Pressure	<i>Not Applicable</i>
Specific Gravity	<i>No Data Available</i>
pH	<i>Not Applicable</i>
Melting point	<i>Not Applicable</i>
Solubility In Water	<i>Not Applicable</i>

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid: Not Applicable

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion

SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Not determined.

CHEMICAL FATE INFORMATION

Not determined.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Dispose of waste product in a sanitary landfill. As a disposal alternative, incinerate in an industrial or commercial facility. The substrate that was abraded must be considered as a factor in the disposal method for this product.

EPA Hazardous Waste Number (RCRA): Not regulated

Since regulations vary, consult applicable regulations or authorities before disposal.

SECTION 14: TRANSPORT INFORMATION

Please contact the emergency numbers listed on the first page of the MSDS for Transportation Information for this material.

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - No

STATE REGULATIONS

Contact 3M for more information.

CHEMICAL INVENTORIES

This product is an article as defined by TSCA regulations, and is exempt from TSCA Inventory listing requirements.

Contact 3M for more information.

INTERNATIONAL REGULATIONS

Contact 3M for more information.

This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: OTHER INFORMATION

NFPA Hazard Classification

Health: 1 Flammability: 0 Reactivity: 0 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Revision Changes:

Copyright was modified.

Section 8: Exposure guidelines information was modified.

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Humco Holding Group, Inc.
7400 Alumax Drive
Texarkana, TX 75501
903-831-7808

Item #0395-1249

Isopropyl Rubbing Alcohol 70%

Date Prepared: 04/01/03

SECTION 1 PRODUCT IDENTIFICATION & EMERGENCY INFORMATION

Product Name: Isopropyl Rubbing Alcohol 70% USP

Chemical Name: 2-Propanol Water

Product Description: Clear colorless liquid.

Emergency Telephone Numbers:

Humco Holding Group, Inc. 800-662-3435

Chemtrec 800-424-9300

SECTION 2 HAZARDOUS INGREDIENT INFORMATION

This product is hazardous as defined in 29 CFR1910.1200.

OSHA HAZARD

Flammable

PEL; TLV

Eye irritant

For additional information see Health Information & Protection.

<u>%</u>	<u>Material</u>	<u>CAS#</u>	<u>Exposure Limit</u>
70	Isopropanol	67-63-0	See Section 3
30	Water	7732-18-5	NA

SECTION 3 HEALTH INFORMATION & PROTECTION

NATURE OF HAZARD

EYE CONTACT: Irritating, and will injure eye tissue if not removed promptly.

SKIN CONTACT: Frequent or prolonged contact may irritate and cause dermatitis. Low order of toxicity.

INHALATION: High vapor concentrations are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anesthetic and may have other central nervous system effects.

INGESTION: Minimal toxicity. Small amounts of the liquid aspirated into the respiratory system during ingestion, or from vomiting, may cause bronchiopneumonia or pulmonary edema.

SECTION 3 HEALTH INFORMATION & PROTECTION Cont'd

FIRST AID

EYE CONTACT: Immediately flush eyes with large amounts of water for at least 15 minutes. Get prompt medical attention.

SKIN CONTACT: Immediately flush with large amounts of water; use soap if available. Remove contaminated clothing, including shoes, after flushing has begun.

INHALATION: Using proper respiratory protection, immediately remove the affected victim from exposure. Administer artificial respiration if breathing is stopped. Keep at rest. Call for prompt medical attention.

INGESTION: If swallowed, **DO NOT** induce vomiting. Keep at rest. Get prompt medical attention.

WORKPLACE EXPOSURE LIMITS

OSHA regulation 29CFR1910.1000 requires the following permissible exposure limits:

A TWA of 400 ppm (980 mg/m³) and a STEL of 500 ppm (1225 mg/m³) for Isopropyl Alcohol.

The ACGIH recommends the following threshold limit values:

A TWA of 400 ppm (983 mg/m³) and a STEL of 500 ppm (1230 mg/m³) for Isopropyl Alcohol.

PRECAUTIONS

PERSONAL PROTECTION: For open systems where contact is likely, wear long sleeves, chemical resistant gloves, and chemical goggles. Where contact may occur, wear safety glasses with side shields. Where concentrations in air may exceed the limits given in this Section and engineering, work practice or other means of exposure reduction are not adequate, NIOSH/MSHA approved respirators may be necessary to prevent overexposure by inhalation.

VENTILATION: The use of mechanical dilution ventilation is recommended whenever this product is used in a confined space, is heated above ambient temperatures, or is agitated. Use explosion-proof ventilation equipment.

CHRONIC EFFECTS: In developmental toxicity studies conducted by the Chemical manufacturers Association, unexpected acute toxicity was found when Isopropanol was administered to pregnant rabbits by gavage. There were no unexpected toxic effects in pregnant rats exposed in the same study. In rats there were some relatively mild developmental toxicity in the rats at levels which did not also produce maternal toxicity. There were no indications of developmental toxicity in the rabbits at any exposure level. Preliminary findings from a multigeneration reproduction study indicate that infant and immature rats are more sensitive than their parents to the acute oral toxicity induced by high (1000 mg/kg/day) doses of Isopropanol. The effect levels for rats and rabbits were at several times the maximum exposure that would occur at the TLV. This information has been reported to the U.S. EPA under the provisions of Section 8(e) of TSCA.

SECTION 4**FIRE & EXPLOSION HAZARD**

FLASHPOINT: 68°F**METHOD:** TCC**FLAMMABLE LIMITS:** LEL: 2.0 UEL: 12.0 @ 77°F (Isopropanol)**AUTOIGNITION TEMPERATURE:** 662°F **NOTE:** Minimum

GENERAL HAZARD: Flammable Liquid, can release vapors that form flammable mixtures at or above the flashpoint. "Empty" containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner, or properly disposed of.

FIRE FIGHTING: Use water spray to cool fire exposed surfaces and to protect personnel. Shut off "fuel" to fire. If a leak or spill has not ignited, use water spray to disperse the vapors. Either allow fire to burn under controlled conditions or extinguish with alcohol type foam and dry chemical. Try to cover liquid spills with foam.

HAZARDOUS COMBUSTION PRODUCTS: None

SECTION 5**SPILL CONTROLL PROCEDURE**

LAND SPILL: Eliminate sources of ignition. Prevent additional discharge of material, if possible to do so without hazard. For small spills implement cleanup procedures; for large spills implement cleanup procedures and, if in public area, keep public away and advise authorities. Also, if this product is subject to CERCLA reporting (see Section 7) notify the National Response Center. Vapors/dust can be harmful/fatal. Warn occupants of downwind areas. Prevent liquid from entering sewers, watercourses, or low areas. Contain spilled liquid with sand or earth. Do not use combustible materials such as sawdust. Recover by pumping (use an explosion proof or hand pump) or with a suitable absorbent. Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

WATER SPILL: Eliminate sources of ignition. Vapors/dust can be harmful/fatal. Warn occupants and shipping in downwind areas. Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

SECTION 6**NOTES**

HAZARD RATING SYSTEMS: This information is for people trained in: National Fire Protection Association (NFPA 704) Identification of the Fire Hazards of Materials

	NFPA 704	KEY	4 = Severe
Health	1		3 = Serious
Flammability	3		2 = Moderate
Reactivity	0		1 = Slight

SECTION 7**REGULATORY INFORMATION**

DEPARTMENT OF TRANSPORTATION (DOT):

DOT PROPER SHIPPING NAME: Flammable Liquid Isopropanol Solution

DOT HAZARD CLASS: Flammable Liquid

DOT IDENTIFICATION: UN 1219

NAME: Isopropanol (Isopropyl Alcohol)

TSCA: This product is listed on the TSCA Inventory at CAS Registry Number 67-63-0

CERCLA: If this product is accidentally spilled, it is not subject to any special reporting under the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). We recommend you contact local authorities to determine if there may be other local reporting requirements.

SARA TITLE III: Under the provisions of Title III, Sections 311/312 of the Superfund Amendments and Reauthorization Act, this product is classified into the following hazard categories: Immediate health, Delayed health, Fire.

SECTION 8**TYPICAL PHYSICAL & CHEMICAL PROPERTIES**

SPECIFIC GRAVITY: 0.878 at 68°F

SOLUBILITY IN WATER, WT. % AT °F: 100.00 at 68

EVAPORATION RATE, n-Bu Acetate=1: 1.7

BOILING POINT, °F: 170°

SECTION 9**REACTIVITY DATA**

STABILITY: Stable

CONDITIONS TO AVOID INSTABILITY: Not applicable.

HAZARDOUS POLYMERIZATION: Will not occur.

MATERIALS AND CONDITIONS TO AVOID INCOMPATIBILITY: Caustics, amines, alkanolamines, aldehydes, strong oxidizing agents, and chlorinated compounds.

HAZARDOUS DECOMPOSITION PRODUCTS: None
Isopropyl Rubbing Alcohol 70%

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SECTION 10

STORAGE AND HANDLING

ELECTROSTATIC ACCUMULATION HAZARD: No, but use proper grounding procedure

STORAGE TEMPERATURE, °F: Ambient

STORAGE/TRANSPORT PRESSURE, mmHg: Atmospheric

LOADING/UNLOADING TEMPERATURE, °F: Ambient

SECTION 1: Chemical Product and Company Identification

Manufacturer: Cumberland Swan
 One Swan Drive
 Smyrna, TN 37167

Date: March 2000

Product: Isopropyl Alcohol (IPA)

50%, 70%, 91% and 99% IPA

Telephone: (615) 459-8900

24hr Emergency: (615) 459-8900 ext. 5270

SECTION 2: Composition/Information on Ingredients

Name: Isopropanol, IPA, 2-Propanol, Dimethyl Carbinol CAS#: 67-63-0

SECTION 3: Hazards Identification

Colorless, volatile liquid with the odor of rubbing alcohol. Isopropyl Alcohol is a dangerous fire risk. Prolonged exposure to elevated concentrations of vapors may result in irritation of the eyes, nose, and throat and central nervous system (CNS) depression. Prolonged dermal exposure can result in dry, cracking skin.

Potential Routes of Exposure: Ingestion, inhalation, dermal contact, eye contact

Target Organs: Eyes, skin, respiratory system

Symptoms of Overexposure:

- Inhalation: Mild irritation of eyes, nose and throat.
- Ingestion: Drowsiness, headache
- Dermal Contact: Dry, cracking skin
- Acute Effects: Irritation of skin and/or upper respiratory tract as noted above. Acute CNS depression may be manifested as giddiness, headache, dizziness and/or nausea.
- Chronic Effects: Chronic exposure can result in skin irritation and contact dermatitis. Pre-existing disorders of the skin, eyes, and respiratory tract may be exacerbated by exposure to isopropyl alcohol.

HMIS: H=1, F=3, R=0 See Section 8 for PPE information

SECTION 4: First Aid Measures

- Eye: Flush eyes with copious amount of water for at least 15 minutes
- Skin: Flush with water. If irritation persists, seek medical attention.
- Ingestion: Do not induce vomiting if victim is unconscious or drowsy. Seek medical attention or contact the poison control center.
- Inhalation: Remove victim to fresh air and provided oxygen if breathing is difficult. Seek Medical attention if breathing continues to be difficult.

SECTION 5: Fire Fighting Measures

- Extinguishing Media: Use water fog, alcohol foam, dry chemical or CO2
- Unusual Fire or Explosion Hazards: Containers exposed to intense heat from fires should be cooled with large amounts of water to prevent buildup of internal pressure due to vapor generation which could result in container rupture.
- Recommendations: Clear area of unprotected personnel. Wear complete turnout gear. Cool containers exposed to fire with water.

SECTION 6: Accidental Release Measures

- Large Spills: Eliminate all ignition sources. Equipment must be grounded to prevent sparking. Evacuate the area of unprotected personnel. Contain source of spill. Dike or otherwise confine spilled product. Uncontrolled releases to air, land, or water may be reportable to the National Response Center (1-800-424-8802).
- Small Spills: Take up with absorbent material and place in non-leaking container; seal tightly. Dispose of absorbent (see section 13)

SECTION 7: Handling and Storage

- Storage Requirements: Store in tightly closed containers in a cool, dry area away from heat and other possible ignition sources.
- Handling precautions: Use non-sparking tools to open containers. Maintain appropriate class of fire extinguishers nearby in case of fire.

SECTION 8: Exposure Controls / Personal Protection

- OSHA PEL=400ppm OSHA STEL=500ppm IDLH=12,000ppm
- Recommended Engineering Controls:** Use explosion-proof ventilation equipment as necessary to maintain airborne concentrations below the PEL. Ground all containers to prevent static sparks during fluid transfers.
- Recommended Admin Controls:** Train employees on the hazards of Isopropyl Alcohol
- PPE:** Goggles, gloves, NIOSH approved respiratory protection required when above PEL/TWA
- Recommended Hygiene Practices:** Clean PPE and work clothing contaminated prior to reuse. After working with this product, be sure to wash before eating, smoking, drinking, or applying cosmetics.

SECTION 9: Physical and Chemical Properties

- Appearance:** Colorless Liquid UEL: 12% LEL: 2%
- Odor:** Mild Rubbing Alcohol Odor Threshold: 43ppm Water solubility: Miscible

	50% IPA	70%IPA	91%IPA	99%IPA
Vapor Pressure (@ 68 ⁰ F) approx.	29mm	23mm	33mm	33mm
Specific Gravity	.929	.878	.790	.790
Boiling Point	176 ⁰ F	176 ⁰ F	180 ⁰ F	181 ⁰ F
Flash Point (TAG Open Cup)	74.5 ⁰ F	70.5 ⁰ F	54 ⁰ F	53 ⁰ F
Freezing Point	-32-50 ⁰ C	-32-50 ⁰ C	-32-50 ⁰ C	-127 ⁰ F
Molecular Weight	47.5	47.5	47.5	60.1
Auto Ignition Temperature	No Data	No Data	No Data	750 ⁰ F

SECTION 10: Stability and Reactivity

Stability:	Stable
Polymerization:	Will not occur
Incompatible Chem:	Strong oxidizers, acetaldehyde, chlorine, ethylene oxide, acids, isocyanates
Conditions to avoid:	Heat, sparks, and open flame.
	Do Not store in aluminum > 120 ° F
Hazardous Products:	CO and unidentified organic compounds may be formed of Decomposition

SECTION 11: Toxicological Information

LD50: 5,840 mg/kg (acute oral - rat); 13,000 mg/kg (acute dermal - rabbit)	
LD50: 16,000 ppm/8hr (inhalation - rat)	Mutagenicity: Not Indicated
LD ₁₀ : 5,000 mg/kg (oral - rabbit)	Reproductive Effects: Not Indicated
Carcinogenicity: Not identified as a carcinogen by OSHO, IARC, or NTP	

SECTION 12: Ecological Information

Ecotoxicity: N/A **Environmental Fate:** N/A
Soil Absorption/Mobility: Highly Mobile
Environmental Degradation: Should be removed readily from soils and water by volatilization and biodegradation.

SECTION 13: Disposal Considerations

Disposal: Contact your supplier or a licensed contractor for detailed recommendations.
Disposal regulatory Requirements: Follow applicable Federal, state, and local regulations. Consider fuels blending as an alternative to incineration.

SECTION 14: Transport Information

DOT Shipping Name: Isopropanol	DOT Packing Group: II
DOT Hazard Class: 3	DOT Label: Flammable Liquid
UN ID#: UN 1219	

SECTION 15: Regulatory Information

RCRA Hazardous Waste Number/ Classification: D001 CERCLA Substance: N/A
HAZARDOUS AIR POLLUTANT (CAA): No SARA 311/312 Codes: N/A
SARA Toxic Chemical: Yes, (Strong manufacturing only)
CERCLA Reportable Quantity: 10,000 lbs (Default)

SECTION 16: Other Information

Prepared by: Cumberland Swan
Sources of Information: 29 CFR 1910.1000; NIOSH Pocket Guide to Chemical Hazards (1993); Occupational Health Guidelines for Chemical Hazards; NFPA Guide to Hazardous Materials - 10th Edition.
Disclaimer: While reasonable care has been taken to ensure the accuracy and completeness of the information regarding the material described herein, it is the purchaser's responsibility to ensure the suitability of such information as it applies to the purchaser's intended use of the material.

Material Safety Data Sheet (MSDS)

Section 1 — Chemical Product and Company Identification

Acetic Acid Solution

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Acetic Acid (64-19-7) <3%, Water (7714-18-5) >97%

Synonyms: vinegar acid, ethanoic acid solution

CAS#: None established

Section 3 — Hazards Identification

Clear colorless liquid, slight 'vinegar' odor.

Substance not considered hazardous. However, not all health aspects of this substance have been thoroughly investigated.

FLINN AT-A-GLANCE

Health-0
Flammability-0
Reactivity-0
Exposure-0
Storage-0

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash continuously with fresh water and mild liquid soap for 15 minutes.

Internal: Give 1 to 2 cups of water or milk, followed by a gastric antacid, such as milk of magnesia. Do not induce vomiting. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Non flammable, non combustible liquid.

NFPA CODE

None established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area. Remove all ignition sources and ventilate area. Contain spill with sand and absorbent material, neutralize with sodium bicarbonate or calcium hydroxide and deposit in sealed bag or container. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Organic #1. Store with acids, anhydrides and peracids.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron.

Use ventilation to keep airborne concentrations below exposure limits. Always wear a NIOSH-approved respirator with proper cartridges or a positive pressure, air-supplied respirator when handling this material in emergency situations (spill or fire).

Exposure guidelines: TWA 10 ppm, STEL 15 ppm (OSHA, NIOSH)

Material Safety Data Sheet (MSDS)

Acetic Acid Solution

MSDS #: 5.10

Revision Date: February 24, 2003

Section 9 — Physical and Chemical Properties

Clear colorless liquid, slight 'vinegar' odor.
Solubility: Soluble in water.
Formula: CH₃CO₂H
Formula Weight: 60.5

Concentration: <3% acetic acid
<.5 Molar

Section 10 — Stability and Reactivity

Avoid contact with strong oxidizers, especially chromic and nitric acids.
Shelf Life: Indefinite.

Section 11 — Toxicological Information

Acute effects: N.A.
Chronic effects: N.A.
Target organs: N.A.

ORL-RAT LD50: 3310 mg/kg as acetic acid
IHL-RAT LC50: 5620 ppm/1H as acetic acid
SKN-RBT LD50: 1060 mg/kg as acetic acid

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.
Flinn Suggested Disposal Method #26b is one option.

Section 14 — Transport Information

Shipping Name: Not regulated
Hazard Class: N/A
UN Number: N/A

N/A = Not applicable

Section 15 — Regulatory Information

TSCA-listed, EINECS-listed (200-580-7). RCRA code D001, D002

Section 16 — Other Information

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals. This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

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flinn@flinnsci.com www.flinnsci.com
P.O. Box 219 Batavia IL 60510
(800) 452-1261 Fax (866) 452-1436

MSDS for Product Distributed by Zee Medical

Alka-Seltzer® Tablets (Zee #1400, 1401)



MATERIAL SAFETY DATA SHEET

BAYER CORPORATION
CONSUMER CARE DIVISION
99 Cherry Hill Road
Parsippany, NJ 07054-1102

TRANSPORTATION EMERGENCY

CALL CHEMTREC: 800-424-9300
DISTRICT OF COLUMBIA: 202-483-7616

NON-TRANSPORTATION

BAYER EMERGENCY PHONE...: (800) 331-4536
BAYER INFORMATION PHONE.: (800) 331-4536

1. CHEMICAL PRODUCT IDENTIFICATION:

PRODUCT NAME.....: Original ALKA-SELTZER Antacid and Pain Reliever
PRODUCT CODE.....: 4028,4002,4024,4022,4019,4017,4012,4011
CHEMICAL FAMILY.....: Effervescent mixture of antacid and pain reliever

2. COMPOSITION/INFORMATION ON INGREDIENTS:

INGREDIENT NAME /CAS NUMBER EXPOSURE LIMITS CONCENTRATION (%)

***** HAZARDOUS INGREDIENTS *****

This pharmaceutical product, available without a prescription, is for human consumption. These materials are not subject to the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200. This Material Safety Data Sheet is not intended for industrial exposures.

***** OTHER INGREDIENTS *****

Aspirin
50-78-2 OSHA : 5.00 mg/m3 TWA Approx. 10%
ACGIH: 5.00 mg/m3 TWA

* See Section 3 for potential health effects.

Sodium Bicarbonate
144-55-8 OSHA : Not Established Approx. 50 %
ACGIH: Not Established

2. COMPOSITION/INFORMATION ON INGREDIENTS (Continued)

INGREDIENT NAME /CAS NUMBER	EXPOSURE LIMITS	CONCENTRATION (%)
Citric Acid 77-92-9	OSHA : Not Established ACGIH: Not Established	30-40 %

3. HAZARDS IDENTIFICATION:

 * EMERGENCY OVERVIEW *
 *
 * Over-the-Counter agent in tablet form that poses little or *
 * no immediate hazard. See Potential Health Effects if the *
 * recommended dosage is exceeded. Will burn in a fire. *

POTENTIAL HEALTH EFFECTS:

ROUTE(S) OF ENTRY.....: Appropriate route of entry: oral

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE:

Alka-Seltzer in water contains principally the antacid sodium citrate and the analgesic sodium acetylsalicylate (the soluble ionic form of aspirin). NOTE: This is a pharmaceutical product available without a prescription - use only as directed. See product packaging and the Physicians Desk Reference (PDR) for further information concerning adverse effects and drug interaction precautions.

ACUTE EFFECTS OF EXPOSURE.....: Acute overexposure to this product may cause nausea, vomiting, ringing in the ears, fever, coma, respiratory alkalosis, metabolic acidosis, and convulsions.

CHRONIC EFFECTS OF EXPOSURE...: Chronic overexposure to this product may cause ringing in the ears, diminished hearing, confusion, agitation, lethargy, pulmonary edema, and cardiovascular collapse.

CARCINOGENICITY.....: The components of this product are not listed by NTP, IARC or regulated as a carcinogen by OSHA.

MEDICAL CONDITIONS

AGGRAVATED BY EXPOSURE.....: Persons with preexisting ulcers (aspirin), asthma (aspirin), predisposition to bleeding and decreased platelet function (aspirin), women who are pregnant (aspirin), children and teenagers with chicken pox (aspirin), congestive heart failure (sodium), or hypertension (sodium) may be more susceptible to the adverse effects of this product.

EXPOSURE LIMITS.....: FDA -- Aspirin 4000 mg/24 hrs. for 10 days in a 70 kg person; acute toxicity may follow ingestions of 150 mg/kg.

4. FIRST AID MEASURES:

FIRST AID FOR EYES.....: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.
FIRST AID FOR SKIN.....: Flush skin with plenty of soap and water. Contact a physician if irritation develops.
FIRST AID FOR INHALATION: Not applicable.
FIRST AID FOR INGESTION.: In case of overdose, contact your regional poison control center or physician immediately. For additional information, contact Bayer Corporation at 1-800-800-4793.

5. FIRE FIGHTING MEASURES:

FLASH POINT.....: Not Applicable
AUTO-IGNITION TEMPERATURE.....: Not Applicable
EXTINGUISHING MEDIA.....: Water
SPECIAL FIRE FIGHTING PROCEDURES: Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes.

6. ACCIDENTAL RELEASE MEASURES:

SPILL OR LEAK PROCEDURES.....: Spills should be swept up and placed in appropriate containers for disposal. Avoid creating dusty conditions.

7. HANDLING AND STORAGE:

STORAGE TEMPERATURE(MIN/MAX): Room temperature.
SHELF LIFE.....: Do not use after expiration date. -
SPECIAL SENSITIVITY.....: None known.
HANDLING/STORAGE PRECAUTIONS: Keep this and all drugs out of the reach of children. Avoid contact with eyes and skin. Wash thoroughly after handling. Store in a dry place away from excessive heat. Reseal containers immediately after use. Use normal precautions for storage of a drug.

8. PERSONAL PROTECTION:

EYE PROTECTION REQUIREMENTS.....: None for normal use.
 SKIN PROTECTION REQUIREMENTS.....: None for normal use.
 VENTILATION REQUIREMENTS.....: Under normal conditions of use, special
 ventilation is not required.
 RESPIRATOR REQUIREMENTS.....: Under normal conditions of use,
 respiratory protection is not required.
 WORK PRACTICES.....: Normal clinical practice. Use good
 personal hygiene - wash hands and exposed skin thoroughly with soap and
 water after each use.
 ADDITIONAL PROTECTIVE MEASURES.....: Employers shall provide handwashing
 facilities which are readily accessible to employees. Educate and train
 employees in the safe use and handling of this product.

9. PHYSICAL AND CHEMICAL PROPERTIES:

PHYSICAL FORM.....: Solid
 APPEARANCE.....: Tablet
 COLOR.....: Effervescent white
 ODOR.....: Odorless
 pH.....: Buffered pH 6 - 7
 BOILING POINT.....: Not Applicable
 MELTING/FREEZING POINT....: Not Applicable
 SOLUBILITY IN WATER.....: Effervesces in water
 SPECIFIC GRAVITY.....: Not Established
 BULK DENSITY.....: Not Established
 VAPOR PRESSURE.....: Not Applicable

10. STABILITY AND REACTIVITY:

STABILITY.....: This is a stable material.
 HAZARDOUS POLYMERIZATION...: Will not occur.
 INCOMPATIBILITIES.....: See product packaging and the Physicians' Desk
 Reference (PDR) for drug interaction.
 INSTABILITY CONDITIONS.....: Effervesces in contact with water, producing CO₂.
 DECOMPOSITION PRODUCTS.....: Not Applicable.

11. TOXICOLOGICAL INFORMATION:

TOXICITY DATA FOR: Aspirin
ACUTE TOXICITY

ORAL LD50.....: Greater than 1,500 mg/kg (rat)

12. ECOLOGICAL INFORMATION:

NO ECOLOGICAL INFORMATION AVAILABLE

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD.....: Waste disposal should be in accordance with existing federal, state and local environmental control laws.

14. TRANSPORTATION INFORMATION:

TECHNICAL SHIPPING NAME.....: Effervescent mixture of antacid and pain reliever
PRODUCT LABEL.....: Original ALKA-SELTZER Antacid and Pain Reliever

DOT (DOMESTIC SURFACE)

HAZARD CLASS OR DIVISION: Non-Regulated

IMO / IMDG CODE (OCEAN)

HAZARD CLASS DIVISION NUMBER...: Non-Regulated

ICAO / IATA (AIR)

HAZARD CLASS DIVISION NUMBER...: Non-Regulated

15. REGULATORY INFORMATION:

OSHA STATUS.....: This material is not subject to the OSHA Hazard Communication Standard as noted in 29 CFR 1910.1200(b)(6)(vii).

TSCA STATUS.....: This product is exempt from TSCA Regulation under Section 3 (2)(B)(vi) when used for pharmaceutical application.

CERCLA REPORTABLE QUANTITY...: None

SARA TITLE III:

SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES...: None

SECTION 311/312 HAZARD CATEGORIES.....: Exempt from SARA Section 311/312

SECTION 313 TOXIC CHEMICALS.....: None

RCRA STATUS.....: If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

COMPONENT NAME /CAS NUMBER	CONCENTRATION	STATE CODE
Aspirin 50-78-2	Approx. 10%	PA1, CA, MA, NJ1
Sodium Bicarbonate 144-55-8	Approx. 50 %	PA3, NJ4
Citric Acid 77-92-9	30-40 %	PA3, NJ4

CA = California Proposition 65
 MA = Massachusetts Hazardous Substance List
 NJ1 = New Jersey Hazardous Substance List
 NJ4 = New Jersey Other - included in 5 predominant ingredients > 1%
 PA1 = Pennsylvania Hazardous Substance List
 PA3 = Pennsylvania Non-hazardous present at 3% or greater.

ADDITIONAL INFORMATION: ACTIVE INGREDIENTS (per tablet): Aspirin 325 mg;

Product Code: 4028,4002,4024,4022,4019,4017,4012,4011
 Approval date: 03/25/96

MSDS Page 6
 Continued on next page

Section 1 — Chemical Product and Company Identification

Aluminum

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Aluminum

Synonym: alumina fiber, aluminum powder

CAS#: 7429-90-5

Section 3 — Hazards Identification

Aluminum powder is a flammable solid.

Silvery odorless solid. Available as sheets, strips, foil, shots, wire, powder and granules.

Avoid inhaling dust.

FLINN AT-A-GLANCE

Health-0

Flammability-0

Reactivity-2

Exposure-0

Storage-0

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash with soap and water.

Internal: Give large quantities of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Aluminum, as dust, is a flammable solid.

Powder Autoignition Temperature: 1400 F

Fire Fighting Instructions: Use triclass, dry chemical fire extinguisher. Firefighters should wear PPE and SCBA with full facepiece operated in positive pressure mode.

NFPA CODE

H-0

F-1

R-1

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area. Remove all ignition sources. Sweep up, place in sealed bag or container and dispose.

Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Inorganic #1. Store with metals and metal hydrides.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron.

Section 9 — Physical and Chemical Properties

Silvery, odorless solid.
Specific Gravity: 2.70
Formula: Al
Formula Weight: 26.98

Melting Point: 660 C
Boiling Point: 2327 C

Section 10 — Stability and Reactivity

Contact with acids liberates flammable hydrogen gas.
Avoid contact with acids, acid chlorides, oxidizers, halogens.
Shelf Life: Indefinite.

Section 11 — Toxicological Information

Acute effects: N.A.
Chronic effects: N.A.
Target organs: N.A.

ORL-RAT LD50: N.A.
IHL-RAT LC50: N.A.
SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.
Flinn Suggested Disposal Method #26a is one option.

Section 14 — Transport Information

Shipping Name: Aluminum powder
Hazard Class: 4.1, Flammable solid
UN Number: UN1309

N/A = Not applicable

Section 15 — Regulatory Information

TSCA-listed, EINECS-listed (231-072-3), RCRA code D001 (dust only).

Section 16 — Other Information

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals. This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

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P.O. Box 219 Batavia IL 60510
(800) 452-1261 Fax (866) 452-1436

Section 1 — Chemical Product and Company Identification

Aluminum Potassium Sulfate

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Aluminum Potassium Sulfate

Synonym: Alum

CAS#: 7784-24-9

Section 3 — Hazards Identification

White crystalline powder.

Irritating to body tissues. Avoid all body tissue contact.

FLINN AT-A-GLANCE

Health-1

Flammability-0

Reactivity-0

Exposure-1

Storage-0

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash continuously with fresh water for 15 minutes.

Internal: Give large quantities of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Non-flammable, non-combustible solid.

When heated to decomposition, emits toxic sulfur trioxide fumes.

Fire Fighting Instructions: Use triclass, dry chemical fire extinguisher. Firefighters should wear PPE and SCBA with full facepiece operated in positive pressure mode.

NFPA CODE

None Established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area. Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates.

Store in a cool dry place.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron.

Use exhaust ventilation to keep airborne concentrations low.

Section 9 — Physical and Chemical Properties

White crystalline powder.

Solubility: Slightly soluble in water (15 %).

Formula: $\text{AlK}(\text{SO}_4)_2 \cdot 12\text{H}_2\text{O}$

Formula Weight: 474.39

Specific Gravity: 1.7

Melting Point: 92.5 C

Section 10 — Stability and Reactivity

Avoid contact with strong oxidizers, bases, steel, aluminum, copper and zinc. When heated to decomposition, emits toxic sulfur trioxide fumes.

Shelf life: Indefinite.

Section 11 — Toxicological Information

Acute effects: irritant, gastrointestinal disturbances

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT LD50: N.A.

IHL-RAT LC50: N.A.

SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.

Flinn Suggested Disposal Method #26a is one option.

Section 14 — Transport Information

Shipping Name: Not regulated

Hazard Class: N/A

UN Number: N/A

N/A = Not applicable

Section 15 — Regulatory Information

TSCA-listed, EINECS-listed (233-141-3).

Section 16 — Other Information

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals. This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

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P.O. Box 219 Batavia IL 60510
(800) 452-1261 Fax (866) 452-1436

MATERIAL SAFETY DATA SHEET

Lower Explosive Limit: no data available

Upper Explosive Limit: no data available

PREVENTIVE MEASURES

◆ Accidental Release Measures

Control Measures	Eliminate sources of ignition and static charge. Dry sweep spilled material into impervious containers. Avoid direct release to environmental media.
Personal Protection	Avoid contact with skin, eyes, and mucous membranes. Protective equipment is not required for cleanup unless high dust levels exist.
Environmental Precautions	Dispose of residues in compliance with applicable national, state/provincial, and local regulations.

◆ Handling and Storage

Handling	Avoid contact with eyes and mucous membranes. Avoid creating dust clouds.
Storage	Store in a cool, dry place away from sources of ignition and incompatible materials (see <i>Stability and Reactivity</i> for incompatible materials). Store in a tightly closed container and protected from light.

◆ Exposure Controls and Personal Protection

Engineering Controls	Where use of the product may generate airborne dust, use appropriate measures such as local exhaust ventilation to maintain air concentrations of the components to within their respective exposure limits.
Respiratory Protection	If any exposure level exceeds a permissible limit, use a respirator having a configuration (class, face piece, filter, etc.) appropriate to the concentration and approved and qualified for the application.
Eye Protection	Wear appropriate eye protection such as goggles or glasses if there is the potential for eye contact with the product.
Skin Protection	Skin protection is not normally required. If it is desired, cloth or synthetic gloves are suitable.

PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Form: powder	Color/colour: white	Odor/odour: None or faint cereal-like
Physical Data	Moisture %: 6 - 13	Packing Density: ≈0.64 g/cc (≈40 lbs./ft ³)	Water Solubility: not soluble
	pH Value: not applicable	Odor/odour threshold: not data available	Vapor/vapour Pressure: none
		Minimum ignition energy: 30 - 60 millijoules (mJ)	Minimum ignition temperature (dust cloud): 300 - 400°C

STABILITY AND REACTIVITY

Conditions to avoid	This product is stable under normal conditions of temperature and pressure.
Materials to avoid	Oxidizing/oxidising agents.
Decomposition products	Carbon monoxide; carbon dioxide; irritant gasses, and smoke.
Dangerous polymerization	Will not occur.
Dangerous reactions	None are known.

TOXICOLOGICAL INFORMATION

Health Hazards	Routes of Entry: Inhalation Acute Effects: Inhalation may irritate the nose, throat, and respiratory tract. Eye contact may cause mild transient irritation. Ingestion of quantities sufficient to produce adverse health effects is not a plausible route of exposure in industrial use. Chronic Effects: None are known
----------------	--

Casco Corn Starch, Food Grade 034030
Food Grade Unmodified Corn Starch 034030

An affiliate of Corn Products International, Inc.



2 of 3
Date: 05/18/2005

MATERIAL SAFETY DATA SHEET

Exposure Limits	ACGIH TLVs, as <i>Particulates Not Otherwise Classified</i> : 10 mg/m ³ (inhalable fraction) 3 mg/m ³ (respirable fraction)	OSHA PELs, as <i>Particulates Not Otherwise Regulated</i> : 15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
Carcinogenicity	IARC: No ACGIH: No	NTP (USA): No OSHA (USA): No
Reproductive Toxicity	Corn Starch is not classified as a reproductive toxin by any authoritative body or regulatory agency.	

TRANSPORT INFORMATION

Shipment of this product is not controlled by ICAO, USDOT, or Mexican NOM-004-SCT-2000 regulations.

ECOLOGICAL INFORMATION

In its intended manner of use, starch is not expected to create adverse ecological effects and is readily biodegradable in the natural environment.

REGULATORY INFORMATION

United States	TSCA: All constituents are on EPA's TSCA inventory. CERCLA: Contains no reportable quantity (RQ) substances per Sections 302/304 of EPA SARA: Contains no chemicals subject to the reporting requirements of Section 313 of EPA FDA: Classified as Generally Regarded as Safe (GRAS)
Canada	DSL: Starch is included. Food and Drug Act: Starch is regulated as a standard foodstuff. WHMIS Classification(s): not applicable
Europe	Exempt from OECD (793/93/EEC) List for Evaluation of High Production Volume (HPV) Chemicals EU EINECS 232-679-6
Elsewhere	Present on Japan (ENCS), Philippines (PICCS) and Australia (AICS) Inventory Lists Present on China's Product Inventory List

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MATERIAL SAFETY DATA SHEET

ALDON CORPORATION

221 Rochester Street
Avon, New York 14414-9409
(585) 228-6177

MSDS No.: BB0000
Effective Date: January 1, 2007

24 HOUR EMERGENCY ASSISTANCE

		CHEMTREC 800-424-9300 Day 585-228-6177	Health 1 Fire 0 Reactivity 0
NFPA HAZARD RATING MINIMAL 0 SLIGHT 1 MODERATE 2 SERIOUS 3 SEVERE 4		HMIS * Health 1 Fire 0 Reactivity 0	

Product	Baking Powder
Chemical Synonyms	Baking Powder
Formula	Mixture.
Unit Size	up to 2.5 Kg.
C.A.S. No.	Mixture.

Principal Component(s)	%	TLV Units
Sodium bicarbonate: (CAS No. 144-55-8)		None established.
Sodium pyrophosphate: (CAS No. 7722-88-5)		None established.
Corn starch: (CAS No. None assigned)		None established.
Monocalcium phosphate: (CAS No. 7758-23-8)		None established.
Calcium sulfate: (CAS No. 7778-18-9)		TWA: 10 mg/m ³

CAUTION! AVOID CONTACT WITH EYES AND MUCOUS MEMBRANES AND PROLONGED SKIN CONTACT.		
Melting Point (°F)	Approx. 270°C (518°F).	Specific Gravity (H ₂ O = 1)
Boiling Point (°F)	Not applicable.	Approx. 2.16
Vapor Pressure (mm Hg)	Negligible as solid.	Percent Volatile by Volume (%)
Vapor Density (Air=1)	Negligible as solid.	Negligible as solid.
Solubility in Water	Unknwon.	Evaporation Rate (Water = 1)
Appearance & Odor	Appreciable (approx. 10 grams per 100 mL. water at 25°C).	Not applicable.
	White powder; no odor.	

Flash Point (Method Used)	Non-flammable solid.	Flammable Limits in Air % by Volume	N/A
Extinguisher Media	Use any media suitable for extinguishing supporting fire.		

SPECIAL FIREFIGHTING PROCEDURES

None required. Inherent fire extinguisher.

UNUSUAL FIRE AND EXPLOSION HAZARDS

No known hazards.

D.O.T. Non-Regulated.

Threshold Limited Value

None established for this mixture.

Effects of Overexposure

Contact with eyes may cause transient irritation. Low hazard for usual laboratory handling. Exercise appropriate procedures to minimize potential hazards. Target organs: None known.

Emergency and First Aid Procedures

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person. **EYES:** Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention. **SKIN:** Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention. **INHALATION:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Stability	Unstable	
	Stable	X

High temperature exposure causes decomposition to Sodium carbonate, water and carbon dioxide.

Incompatibility (Materials to Avoid)
 Reacts with acids and acid fumes.

Hazardous Decomposition Products
 Carbon oxides.

Hazardous Polymerization	Conditions to Avoid
May Occur	Will Not Occur
	X

Not applicable.

Steps to be taken in case material is released or spilled
 Recover for use if not contaminated. Sweep up and place in suitable container for disposal. Wash spill area with soap and water.

Waste Disposal Method
 Dissolve in water and flush to sewer with large amounts of water.

Respiration Protection (Specify Type)	Good ventilation should be sufficient.			
Ventilation	Local Exhaust	Recommended.	Special	No.
	Mechanical (General)	Recommended.	Other	No.
Protective Gloves	Rubber.	Eye Protection		
Other Protective Equipment	Goggles, lab coat, eye wash station, proper gloves.			

Precautions to be Taken in Handling & Storing
 Store in a cool, dry place. Keep away from acids and acid fumes. Wash thoroughly after handling.

Other Precautions
 Read label on container before using. Do not wear contact lenses when working with chemicals. For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

Avoid contact with eyes. Use with adequate ventilation. Remove and wash contaminated clothing.

Revision No.	6	Date	01/01/07	Approved	James A. Bertsch	Chemical Safety Coordinator	JAB
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The information contained herein is furnished without warranty of any kind. Employees should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. * Hazardous Materials Industrial Standards. Printed on recycled paper.


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MATERIAL SAFETY DATA SHEETS

Church & Dwight Co., Inc.

MATERIAL SAFETY DATA SHEET

MSDS NUMBER: MSDS-960

ISSUE DATE: 11/01/00

1. PRODUCT IDENTIFICATION

Product Name

 SODIUM
 BICARBONATE
 (BAKING SODA)

 Church & Dwight Co.,
 Inc.
 469 N. Harrison Street
 Princeton, NJ 08543

Emergency Phone:
 1-609-683-5900 (in
 U.S.A.)

Medical Emergency
 Phone:
 1-800-228-5635
 Ext. 007 (U.S.A.)

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Ingredient (%) by Weight	CAS Number
100%	144-55-8
Sodium Bicarbonate	

(X) Not hazardous under OSHA Standard 29 CFR 1910.1200.

(X) Not a WHMIS controlled substance.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

 White crystalline powder
 No odor
 Not a fire hazard
 No significant health or environmental effects associated with this
 material.

HMIS Rating
 -

Health	0
Fire	0
Reactivity	0

Potential Health Effects

EYE: Not an eye irritant.

SKIN CONTACT: Not a skin irritant.

INGESTION: Material is practically non-toxic. Small amounts (1-2 tablespoonfuls) swallowed during normal handling operations are not likely to cause injury as long as the stomach is not overly full; swallowing larger amounts may cause injury (see Note in Section IV).

INHALATION: None known.

SUBCHRONIC EFFECTS/CARCINOGENICITY: Based on published studies on its effects in animals and humans, sodium bicarbonate is not teratogenic or genotoxic. Only known subchronic effect is that of a marked systemic alkalosis. The material is not listed as a carcinogen or potential carcinogen by IARC, NTP, OSHA, or ACGIH.

4. FIRST AID MEASURES

EYES: Check for and remove contacts. Flood eyes with clean flowing water, low pressure and luke warm (not hot) if possible, occasionally lifting eyelids.

INGESTION: If large amounts of this material are swallowed, do not induce vomiting. Administer water if person is conscious. Never give anything by mouth to an unconscious person.

NOTE TO PHYSICIAN: Large doses may produce systemic alkalosis and expansion in extracellular fluid volume with edema.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES	FLAMMABLE LIMITS
FLASHPOINT: Not combustible	LFL: Not applicable
METHOD USED: Not applicable	UFL: Not applicable

EXTINGUISHING MEDIA: Non-combustible material. Use extinguishing media appropriate for surrounding fire.

FIRE-FIGHTING INSTRUCTIONS: Carbon Dioxide may be generated making necessary the use of a self-contained breathing apparatus (SCBA) and full protective equipment (Bunker Gear). Carbon dioxide is an asphyxiant at levels over 5% w/w. Sodium oxide, another thermal decomposition product existing at temperatures above 1564°F is a respiratory, eye, and skin irritant. Avoid inhalation, eye and skin

contact with sodium oxide dusts.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None known.

6. ACCIDENTAL RELEASE MEASURES

Scoop up into dry, clean containers. Wash away uncontaminated residue with water.

7. HANDLING AND STORAGE

Store in cool, dry areas and away from incompatible substances (see Section 10).

Sodium Bicarbonate reacts with acids to yield carbon dioxide gas which can accumulate in confined spaces. Do not enter confined spaces until they have been well ventilated and carbon dioxide and oxygen levels have been determined to be safe.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION: Dust mask required if total dust level exceeds 10 mg/m³.

PROTECTIVE GLOVES: General purpose for handling dry product. Impervious gloves when working with solutions.

EYE PROTECTION: Safety glasses when handling bulk material or when dusts are generated.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Full cover clothing. Apron where splashing may occur when working with solutions.

PROTECTIVE WORK/HYGIENIC PRACTICES: No special requirements with respect to chemical exposure beyond those provided above. Requirements with respect to specific equipment and applications are the responsibility of the user.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: White crystalline powder.

ODOR: None.

PHYSICAL STATE: Solid

pH AS IS: Not Applicable

pH (1% SOLN. w/v): 8.2

VAPOR PRESSURE: Not applicable.

VAPOR DENSITY: Not applicable.

BOILING POINT: Not applicable.

FREEZING/MELTING POINT: Not applicable.

SOLUBILITY IN WATER: 8.6 g/100 ml @ 20°C.

BULK DENSITY (g/cc): 62 lb/Ft³

% VOLATILE: Not applicable.
VOLATILE ORGANIC COMPOUNDS: Not applicable.
MOLECULAR WEIGHT: 84.02

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable.

CONDITIONS TO AVOID: Temperatures above 65C (150F).

INCOMPATIBILITY WITH OTHER MATERIALS: Reacts with acids to yield carbon dioxide. Also may yield free caustic in presence of lime dust (CaO) and moisture (i.e., water, perspiration).

HAZARDOUS DECOMPOSITION PRODUCTS: Heating above 100C may cause dangerous levels of carbon dioxide gas to be present in confined spaces. Yields sodium oxide if exposed to temperatures above 850C. Avoid inhalation, eye and skin contact with sodium oxide.

HAZARDOUS POLYMERIZATION: Not applicable.

11. TOXICOLOGICAL INFORMATION

EYE EFFECTS: The material was minimally irritating to unwashed eyes and practically non-irritating to washed eyes (rabbits).

SKIN EFFECTS: Not a skin irritant or dermally toxic. Not a contact sensitizer.

ACUTE ORAL EFFECTS: Acute Oral-rat LD₅₀ = 7.3 g/kg.

ACUTE INHALATION: LC₅₀ (rat) > 4.74 mg/l.

AQUATIC TOXICITY:

Daphnids: EC₅₀ = 4100 mg/l.

Bluegill: LC₅₀ = 7100 mg/l.

Rainbow Trout: LC₅₀ = 7700 mg/l.

12. DISPOSAL CONSIDERATIONS

Bury in a secured landfill in accordance with all local, state and federal environmental regulations. Empty containers may be incinerated or discarded as general trash.

13. TRANSPORTATION INFORMATION

D.O.T. SHIPPING NAME: Not regulated
TECHNICAL SHIPPING NAME: Sodium Bicarbonate
D.O.T. HAZARD CLASS: None
U.N./N.A. NUMBER: None
HAZARDOUS SUBSTANCE/RQ: None
D.O.T. LABEL: None
D.O.T. PLACARD: None

14. REGULATORY INFORMATION

CLEAN AIR ACT SECTION 611: Material neither contains nor is it manufactured with ozone depleting substances (ODS).

FEDERAL WATER POLLUTION CONTROL ACT (40 CFR 401.15):
Material contains no intentionally added or detectable (contaminant) levels of EPA priority toxic pollutants.

FOOD AND DRUG ADMINISTRATION: Generally Recognized As Safe (GRAS) direct food additive (21 CFR 184.1736).

US DEPARTMENT OF AGRICULTURE: List of Proprietary Substances - Permitted Use Codes 3A, J1, A1, G1, and L1.

CERCLA REPORTABLE QUANTITY: None

OSHA: Not hazardous under 29 CFR 1910.1200

RCRA: Not a hazardous material or a hazardous waste by listing or characteristic.

SARA TITLE III:

Section 302, Extremely Hazardous Substances: None
Section 311/312, Hazardous Categories: Non-hazardous
Section 313, Toxic Chemicals: None

15. MISCELLANEOUS INFORMATION

Sodium Bicarbonate is reported in the EPA TSCA Inventory List.
Material is listed on the Canadian DSL.

Material is not listed as carcinogen or potential carcinogen by:

NTP Annual Report
IARC Group I or II
OSHA 29 CFR Part 1910 Subpart Z
ACGIH Appendix A.

Material is not a volatile organic compound nor does it not contain VOCs.

NATIONAL STOCKING NUMBER: 6810002646618, Contract No. DLA

40086C1831

NSF STANDARD 60: Corrosion and Scale Control in Potable Water.

Max use 200 mg/l.

EUROPEAN INVENTORY (EINECS): 205-633-8

JAPANESE INVENTORY (MITI): 1-164

AUSTRALIAN INVENTORY (AICS): Carbonic acid, monosodium salt.

SUPERSEDES DATE: 04/17/98

REASON FOR REVISION: Added company name and address to Section 1.

This Product Safety Data Sheet is offered solely for your information, condatin and investigation. Church & Dwight Co., Inc. provides no warranties, either express or implied, and assumes no responsibility for the accuracy or completeness of data contained herein. Church & Dwight Co., Inc. urges persons receiving this information to make their own determination as to the information suitability for their particular application.



MATERIAL SAFETY DATA SHEET

1. Product Identification:

Product Name:	Black Pepper 40 / 20 Oleoresin
Botanical Name:	<i>Piper nigrum</i>
Synonyms:	<i>Piper nigrum L., Piper nigrum (LINN.)</i>
INCI Name:	Piper nigrum (pepper) fruit extract
CAS#:	84929-41-9
Country of Origin:	India

2. Classification:

Chemical Identification: Oleoresin, pepper

24 HOUR EMERGENCY TELEPHONE NUMBER: (613)-996-6666 CANUTEC

3. Hazardous Ingredients Information:

N/A

4. Physical & Chemical Properties:

Appearance:	Pale yellowish brown to brown viscous liquid.
Odor:	Characteristic aroma and pungency of black pepper.
Solubility:	Soluble in alcohol and oils. Insoluble in water.
Volatile Oil Content:	20.0 – 20.5 %
Piperine Content:	40.0 – 41.0 %
Residual Solvent:	< 30ppm
Total Plate Count:	< 1000 CFU/g
Yeast & Mold:	< 100 CFU/g
Salmonella:	Absent in 25 g
E.Coli:	Absent in 1 g
Extraction Medium:	Ethyl acetate – hexane
Extraction Method:	Solvent extraction of dry fruit
Constituents:	Piperine, volatile oil

5. Fire/Explosion Hazard:

Flash Point: N/A

Non-flammable liquid.

6. Reactivity/Stability Data:

Reactivity: Stable.

Decomposition: Not Available.

7. Toxicological Properties/Information:

Liquid will irritate eyes and skin on contact. Mild irritant.

8. Preventive Data:

Spillage: Absorb spills, cover with an inert, non-combustible, inorganic absorbent material, and remove to an approved disposal container.

Fire: Recommended extinguishing media – CO₂, foam and dry chemicals. DO NOT use direct water jet on burning material.

Environment: Keep away from drains, surface and ground water.

Storage: Store in a cool, dry place protected in a full tightly closed HDPE or aluminum container away from light.

9. First Aid Measures:

Eye contact: Flush with water for at least 15 minutes. Call physician if irritation persists.

Inhalation: Avoid casual breathing.

Ingestion: Rinse mouth and drink milk. Never-give anything by mouth if victim is unconscious, is rapidly-losing consciousness, or is convulsing.

Skin contact: Remove contaminated clothing. Wash with soap and plenty of water.

11. Individual Protection for Industrial Use:

Use safety glasses.

Avoid skin contact by using surgical gloves.

12. Preparation Information:

Quality Assurance

New Directions Aromatics Inc.

Brampton ON

L7A 1C5

Revision Date: 8th September 2008

Disclaimer

The information contained in this Certificate of Analysis and Material Safety Data Sheet are obtained from current and reliable sources. As the ordinary or otherwise use(s) of this product is outside the control of New Directions Aromatics Inc., no representation or warranty, expressed or implied is made as to the effect(s) of such use(s) (including damage or injury), or the results obtained.

New Directions Aromatics Inc. expressly disclaims responsibility as to the ordinary or otherwise use(s). Furthermore, New Directions Aromatics as to the fitness for any use should consider nothing container herein as a recommendation. The liability of New Directions Aromatics Inc. is limited to the value of the goods and does not include any consequential loss.

CERTIFICATE OF ANALYSIS

PRODUCT: BLACK PEPPER OLEORESIN 40/20

PRODUCT NO: 18001

LOT NO: 18001-A02

	Specifications:	Results:
Appearance:	Pale yellowish brown to brown liquid.	Complies
Odor:	Characteristic aroma and pungency of black pepper.	Complies
Solubility:	Soluble in alcohol and oils. Insoluble in water.	Complies
Volatile Oil Content:	20.61 ml/100 gram	Complies
Piperine Content:	40.0 – 41.0 %	Complies
Residual Solvent:	< 30ppm	Complies

Section 1 — Chemical Product and Company Identification

Calcium Carbonate

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Calcium Carbonate

Synonym: chalk, dolomite, limestone

CAS#: 471-34-1

Section 3 — Hazards Identification

White odorless powder.

Irritant to body tissues. Severe eye and moderate skin irritant.

FLINN AT-A-GLANCE

Health-0

Flammability-0

Reactivity-0

Exposure-1

Storage-0

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash continuously with fresh water for 15 minutes.

Internal: Give no more than 1-2 cups of water for dilution. Induce vomiting. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Non flammable, non combustible solid.

NFPA CODE

None Established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area. Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Inorganic #4. Store with hydroxides, oxides, silicates and carbonates.

Store in a cool dry place.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron.

Section 9 — Physical and Chemical Properties

White odorless powder.

Solubility: Slightly soluble in water.

Formula: CaCO₃

Formula Weight: 100.09

Specific Gravity: 2.7

Melting Point: 825 C (dec)

Section 10 — Stability and Reactivity

Avoid contact with strong oxidizers, acids, magnesium and aluminum.

Section 11 — Toxicological Information

Acute effects: Irritant

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT LD50: 6450 mg/kg

IHL-RAT LC50: N.A.

SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.

Flinn Suggested Disposal Method #26a is one option.

Section 14 — Transport Information

Shipping Name: Not regulated

Hazard Class: N/A

UN Number: N/A

N/A = Not applicable

Section 15 — Regulatory Information

TSCA-listed, EINECS-listed (207-439-9).

Section 16 — Other Information

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals. This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

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P.O. Box 219 Batavia IL 60510
(800) 452-1261 Fax (866) 452-1436

Section 1 — Chemical Product and Company Identification

Calcium Chloride

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Calcium Chloride and Calcium Chloride dihydrate

CAS#: 10043-52-4 ; dihydrate: 10035-04-8

Section 3 — Hazards Identification

White odorless powder, crystals or flakes.

Slightly toxic by ingestion. Mild irritant to skin, eyes and mucous membranes. Avoid all body tissue contact.

FLINN AT-A-GLANCE

Health-1
Flammability-0
Reactivity-0
Exposure-1
Storage-1

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash continuously with fresh water for 15 minutes.

Internal: Rinse out mouth, give 1 to 2 cups of water or milk, induce vomiting. After vomiting, give mixture of 2 Tbs. of activated charcoal mixed with one cup of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Non flammable, non combustible solid.

When heated to decomposition, emits toxic chlorine gases.

Fire Fighting Instructions: Use triclass, dry chemical fire extinguisher. Firefighters should wear PPE and SCBA with full facepiece operated in positive pressure mode.

NFPA CODE

None Established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area. Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates. Store in a cool dry place. Deliquescent, store in Flinn Chem-Saf Bag.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron. Use exhaust ventilation to keep airborne concentrations low.

Section 9 — Physical and Chemical Properties

White odorless powder, crystals or flakes.
Solubility: Dihydrate: Water soluble
Formula: CaCl₂; dihydrate: CaCl₂ 2H₂O
Formula Weight: 110.98

Specific Gravity: 2.15; dihydrate: 0.835
Melting Point: 772 C

Section 10 — Stability and Reactivity

Avoid contact with strong acids.
Shelf life: Fair to Poor, deliquescent.

Section 11 — Toxicological Information

Acute effects: Irritant
Chronic effects: N.A.
Target organs: N.A.

ORL-RAT LD50: 1000 mg/kg
IHL-RAT LC50: N.A.
SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.
Flinn Suggested Disposal Method #26a is one option.

Section 14 — Transport Information

Shipping Name: Not regulated
Hazard Class: N/A
UN Number: N/A

N/A = Not applicable

Section 15 — Regulatory Information

TSCA-listed, EINECS-listed (233-140-8).

Section 16 — Other Information

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals. This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

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flinn@flinnsci.com www.flinnsci.com
P.O. Box 219 Batavia IL 60510
(800) 452-1261 Fax (866) 452-1436

Section 1 — Chemical Product and Company Identification

Charcoal

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Charcoal

Synonym: activated carbon

CAS#: 7440-44-0

Section 3 — Hazards Identification

Black powder, granule or lump. Odorless.

Dust hazardous by inhalation.

Flammable solid as dust. Avoid any source of ignition.

FLINN AT-A-GLANCE

Health-1

Flammability-2

Reactivity-1

Exposure-1

Storage-2

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash continuously with fresh water for 15 minutes.

Internal: Rinse out mouth, give 1 to 2 cups of water or milk, induce vomiting. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Flammable solid as a dust.

Autoignition Temperature: 842 F

Fire Fighting Instructions: Use triclass, dry chemical fire extinguisher. Firefighters should wear PPE and SCBA with full facepiece operated in positive pressure mode.

NFPA CODE

None Established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area. Remove all ignition sources and water. Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Inorganic #4. Store with hydroxides, oxides, silicates and carbonates.

Store in Flinn Chem-Saf bag, in a Flinn Saf-Stor can. Store in a cool dry place.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron.

Section 9 — Physical and Chemical Properties

Black powder, granule or lump odorless.

Solubility: Insoluble in water

Formula: C

Formula Weight: 12.01

Specific Gravity: 1.821-2.1

Boiling Point: 4200 C

Section 10 — Stability and Reactivity

Avoid heat, flame and oxidizing agents.

Shelf life: Good, if kept dry.

Section 11 — Toxicological Information

Acute effects: Irritating dust

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT LD50: N.A.

IHL-RAT LC50: N.A.

SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.

Flinn Suggested Disposal Method #26a is one option.

Section 14 — Transport Information

Shipping Name: Charcoal

Hazard Class: 4.2, Spontaneously combustible

UN Number: NA1361

N/A = Not applicable

Section 15 — Regulatory Information

TSCA-listed, EINECS-listed (231-153-3).

Section 16 — Other Information

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals. This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

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P.O. Box 219 Batavia IL 60510
(800) 452-1261 Fax (866) 452-1436

NO MSDS FOR THIS PRODUCT

For some products, a manufacturer/supplier is not required to provide the Material Safety Data Sheet (MSDS). Examples of products that generally do not have MSDS include:

- Tobacco or tobacco products
- Wood Products
- Certain Drugs
- Food Products
- Consumer products

This item does not have a MSDS. Fuss & O'Neill EnviroScience, (formerly EnviroScience Consultants LLC) requested a MSDS for this item, but was notified by the manufacturer/supplier that a MSDS was not required by Federal regulations.

Information concerning the types of products that are exempt from OSHS Hazard Communication standard may be found in Title 29 of the Code of Federal Regulations, Section 1910.1200 or from your local U. S. Department of Labor or State occupational safety office.

Section 1 — Chemical Product and Company Identification

Copper

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Copper

CAS#: 7440-50-8

Section 3 — Hazards Identification

Reddish-brown ductile metal. May be in the form of granules, shot, powder, sheet, wire, foil, or turnings. Odorless.

Irritant to body tissues as dust. Avoid contact with nitric acid, emits toxic fumes of nitrogen oxides.

FLINN AT-A-GLANCE

Health-0

Flammability-0

Reactivity-1

Exposure-0

Storage-0

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash continuously with fresh water for 15 minutes.

Internal: Give large quantities of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Non flammable solid.

Non-combustible solid in bulk form, but air-born dust may ignite.

Fire Fighting Instructions: Use triclass, dry chemical fire extinguisher. Firefighters should wear PPE and SCBA with full facepiece operated in positive pressure mode.

NFPA CODE

None Established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area. Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Inorganic #1. Store with metals and metal hydrides.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron. Use ventilation to keep airborne concentrations below exposure limits. Always wear a NIOSH-approved respirator with proper cartridges or a positive pressure, air-supplied respirator when handling this material in emergency situations (spill or fire).

Exposure guidelines: TWA 0.1 mg/m³ (OSHA)

Section 9 — Physical and Chemical Properties

Reddish-brown ductile metal. Also granules, shot, powder, sheet, wire, foil turnings. Odorless.

Solubility: Soluble in nitric acid and hot sulfuric acid.

Formula: Cu

Formula Weight: 63.54

Specific Gravity: 8.92

Melting Point: 1083 C

Section 10 — Stability and Reactivity

Avoid contact with strong oxidizers, strong acids, bromates, chlorates, iodates and halogens. Avoid contact with nitric acid, emits toxic fumes of nitrogen oxides.

Shelf Life: Indefinite.

Section 11 — Toxicological Information

Acute effects: Irritant

Chronic effects: N.A.

Target organs: Respiratory system, skin, liver, kidneys, increased risk with Wilson's disease.

ORL-RAT LD50: N.A.

IHL-RAT LC50: N.A.

SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.

Flinn Suggested Disposal Method #26a is one option.

Section 14 — Transport Information

Shipping Name: Not regulated

Hazard Class: N/A

UN Number: N/A

N/A = Not applicable

Section 15 — Regulatory Information

TSCA-listed, EINECS-listed (231-159-6), RCRA code D001.

Section 16 — Other Information

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals. This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

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Flinn Chemical Packaging Prevents Accidents

flinn@flinnsci.com www.flinnsci.com
P.O. Box 219 Batavia IL 60510
(800) 452-1261 Fax (866) 452-1436

PRODUCT INFORMATION

Product Identity	Globe® Corn Syrup, 016520	
Product Use	Food-grade corn syrup / glucose	
Company	Corn Products U.S. 5 Westbrook Corporate Center Westchester, IL 60154 USA Info/Emergency Phone: (708) 551-2600 Business Hours: Mon - Fri, 7:30 a.m. - 5:00 p.m. (Central Time), Fax: (708) 551-2510	Casco, Inc. 401 The West Mall, 2 nd Floor Etobicoke, Ontario M9C 5P7 Canada Info/Emergency Phone: (416) 620-2300 Fax: (416) 620-4488

COMPOSITION/INFORMATION ON INGREDIENTS

Substance	CAS Number	% or Range	Toxicology Data
Corn Syrup / Glucose	8029-43-4	≤100	None available

HAZARDS IDENTIFICATION

Toxicity	Skin contact is not known to be hazardous to health. Eye contact may cause minor irritation. Ingestion of quantities sufficient to produce adverse health effects is not a plausible route of exposure in industrial use.
Reactivity	The product is non-reactive under foreseeable conditions of use.
Flammability	The product is not flammable.
Corrosivity	The product is not corrosive.

FIRST AID MEASURES

Inhalation	Remove the subject from the source of exposure.
Skin Contact	Wash affected area with water.
Eye Contact	Flush eyes with water for at least fifteen minutes. Seek medical assistance if necessary.
Ingestion	If large quantities of product are ingested, seek medical attention.

FIRE AND EXPLOSION HAZARDS AND FIREFIGHTING MEASURES

Hazards	Product as a liquid does not pose explosivity hazards.	
Extinguishing media	Water, carbon dioxide, or dry chemical.	
Fire and Explosion Hazards Data	Flashpoint: no data available Lower Explosive Limit: no data available	Autoignition temperature: no data available Upper Explosive Limit: no data available

PREVENTIVE MEASURES**◆ Accidental Release Measures**

Control Measures	Avoid direct release to environmental media. Contain product for disposal. See Environmental Precautions.
Personal Protection	Avoid contact with skin, eyes, and mucous membranes. Protective equipment is not required for cleanup unless product temperature is sufficient to require precautions.
Environmental Precautions	Dispose of residues in compliance with applicable national, state/provincial, and local regulations.

◆ Handling and Storage

Handling	Avoid contact with eyes and skin. Use personal protection appropriate for the product temperature.
Storage	Store product away from incompatible materials (see <i>Stability and Reactivity</i> for incompatible materials).

◆ Exposure Controls and Personal Protection

Engineering Controls	None required other than preventing direct contact with product.
Respiratory Protection	Not required under foreseeable conditions of use.
Eye Protection	Wear appropriate eye protection such as goggles or glasses if there is the potential for eye contact with the product.
Skin Protection	Skin protection is needed depending on product temperature.

PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Form: liquid	Color/colour: colorless – straw	Odor/odour: None or faint cereal-like
Physical Data	Melting Point: not applicable	Density: 1.429 – 1.443 g/cc (in air @ 20°C)	Water Solubility: soluble
	pH Value: no data available	Odor/odour threshold: no data available	Vapor/vapour Pressure: ≈30-35 mm Hg @ 100°F (38°C)
	Boiling Point: ≈231-235°F	Freezing Point : no data available	Evaporation Point: no data available
	Vapor Density: no data available		

STABILITY AND REACTIVITY

Conditions to avoid	This product is stable under normal conditions of temperature and pressure.
Materials to avoid	Oxidizing/oxidising agents.
Decomposition products	Carbon monoxide; carbon dioxide; irritant gasses, and smoke.
Dangerous polymerization/polymerisation	Will not occur.
Dangerous reactions	None are known or reasonably foreseeable.

Material Safety Data Sheet

Product Name: CRAYOLA(R) CLAYTIME CLAY
Product Family:

1. Chemical Product and Company Identification

BINNEY & SMITH
1100 CHURCH LANE
EASTON, PA 18044
1-800-272-9652

EMERGENCY TELEPHONE NUMBER:
1-800-535-5053
or call local POISON CONTROL CENTER

SUBSTANCE: CRAYOLA(R) CLAYTIME CLAY

TRADE NAMES/SYNONYMS:
PRODUCT COLORS/CODES: 57-0143; **PRODUCT COLORS/CODES:** BLUE; **PRODUCT COLORS/CODES:** GREEN; **PRODUCT COLORS/CODES:** RED; **PRODUCT COLORS/CODES:** YELLOW; CRAYOLA CLAYTIME CLAY; BNSS097

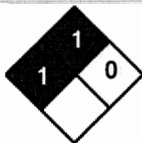
PRODUCT USE: Arts and Crafts

CREATION DATE: Nov 12 1997
REVISION DATE: Mar 19 2003

2. Composition, Information on Ingredients

COMPONENT: Product has been certified as non-toxic by The Art and Creative Materials Institute, Inc. and conforms to ASTM D-4236 Standard Practice for Labeling Art Materials for Acute and Chronic Adverse Health Hazards.
CAS NUMBER: Not assigned.
EC NUMBER: Not assigned.
PERCENTAGE: 100

3. Hazards Identification



NFPA RATINGS (SCALE 0-4): HEALTH=1 FIRE=1 REACTIVITY=0

EMERGENCY OVERVIEW:
COLOR: various colors
PHYSICAL FORM: solid
ODOR: odorless
MAJOR HEALTH HAZARDS: No significant target effects reported.

POTENTIAL HEALTH EFFECTS:
INHALATION:
none
SKIN CONTACT:
none
EYE CONTACT:
none
INGESTION:
none

CARCINOGEN STATUS:

Material Safety Data Sheet

OSHA: No
NTP: No
IARC: No

4. First Aid Measures

INHALATION: It is unlikely that emergency treatment will be required. Remove from exposure. Get medical attention, if needed.

SKIN CONTACT: It is unlikely that emergency treatment will be required. If adverse effects occur, wash with soap or mild detergent and large amounts of water. Get medical attention, if needed.

EYE CONTACT: It is unlikely that emergency treatment will be required. Wash with large amounts of water or normal saline until no evidence of chemical remains (at least 15-20 minutes). Get medical attention immediately.

INGESTION: Contact local poison control center or physician immediately.

5. Fire Fighting Measures

FIRE AND EXPLOSION HAZARDS: Slight fire hazard.

EXTINGUISHING MEDIA: regular dry chemical, carbon dioxide, water, regular foam

FIRE FIGHTING: Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products.

6. Accidental Release Measures

OCCUPATIONAL RELEASE:
Collect spilled material in appropriate container for disposal.

7. Handling and Storage

STORAGE: Store and handle in accordance with all current regulations and standards. See original container for storage recommendations. Keep separated from incompatible substances.

HANDLING: Use methods to minimize dust.

8. Exposure Controls, Personal Protection

EXPOSURE LIMITS:
CRAYOLA(R) CLAYTIME CLAY:
No occupational exposure limits established.

VENTILATION: Based on available information, additional ventilation is not required.

EYE PROTECTION: Eye protection not required under normal conditions.

Material Safety Data Sheet

CLOTHING: Protective clothing is not required under normal conditions.

GLOVES: Protective gloves are not required under normal conditions.

RESPIRATOR: No respirator is required under normal conditions of use.
Under conditions of frequent use or heavy exposure, respiratory protection may be needed.

9. Physical and Chemical Properties

PHYSICAL STATE: solid
COLOR: various colors
ODOR: odorless
BOILING POINT: Not applicable
MELTING POINT: Not available
VAPOR PRESSURE: Not applicable
VAPOR DENSITY: Not applicable
SPECIFIC GRAVITY: Not available
WATER SOLUBILITY: Not available
PH: Not applicable
VOLATILITY: Not applicable
ODOR THRESHOLD: Not available
EVAPORATION RATE: Not applicable
COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available

10. Stability and Reactivity

REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: None reported.

INCOMPATIBILITIES: acids, oxidizing materials

HAZARDOUS DECOMPOSITION:
Thermal decomposition products: oxides of carbon

POLYMERIZATION: Will not polymerize.

11. Toxicological Information

Not available

12. Ecological Information

Not available

13. Disposal Considerations

Dispose in accordance with all applicable regulations.

Material Safety Data Sheet

14. Transport Information

U.S. DEPARTMENT OF TRANSPORTATION: No classification assigned.

CANADIAN TRANSPORTATION OF DANGEROUS GOODS: No classification assigned.

LAND TRANSPORT ADR: No classification assigned.

LAND TRANSPORT RID: No classification assigned.

AIR TRANSPORT IATA: No classification assigned.

AIR TRANSPORT ICAO: No classification assigned.

MARITIME TRANSPORT IMDG: No classification assigned.

15. Regulatory Information

U.S. REGULATIONS:

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4): Not regulated.

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.30):
Not regulated.

SARA TITLE III SECTION 304 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.40):
Not regulated.

SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370.21):

ACUTE: No

CHRONIC: No

FIRE: No

REACTIVE: No

SUDDEN RELEASE: No

SARA TITLE III SECTION 313 (40 CFR 372.65): Not regulated.

OSHA PROCESS SAFETY (29CFR1910.119): Not regulated.

STATE REGULATIONS:

California Proposition 65: Not regulated.

CANADIAN REGULATIONS:

WHMIS CLASSIFICATION: Not determined.

EUROPEAN REGULATIONS:

EC CLASSIFICATION (CALCULATED): Not determined.

NATIONAL INVENTORY STATUS:

U.S. INVENTORY (TSCA): Listed on inventory.

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

16. Other Information

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MATERIAL SAFETY DATA SHEET

MSDS #: LDL 0001
 Supersedes: LDL9901

Issue Date: 09/28/00
 Issue Date: 02/17/99

SECTION I - CHEMICAL PRODUCT		
Identity: Liquid Hand Dishwashing Detergents		
Brands:		
DAWN (All Variations)		
IVORY (All Variations)		
JOY (All Variations)		
Hazard Rating:	Health: 2	4=EXTREME
	Flammability: 1	3=HIGH
	Reactivity: 0	2= MODERATE
		1=SLIGHT
Emergency Telephone Number: 24hr P&G Operator:		
DAWN - 1-800-725-3296 (DAWN)		
IVORY 1-800-253-2753 (IVORY)		
JOY - 1-800-436-1569 (JOY)		
or call Local Poison Control Center or your physician		

SECTION II - COMPOSITION AND INGREDIENTS					
Ingredients/Chemical Name: Cleaning and sudsing agents (anionic and nonionic surfactants), dispensing aid (ethyl alcohol), water, stabilizing agents, colorant and perfume.					
Dawn and Joy Antibacterial Hand Soaps also contain the antibacterial active Triclosan.					
Dawn Hand Care product contains a protease enzyme.					
Hazardous Ingredients as defined by OSHA, 29 CFR 1910.1200.					
<u>Chemical Name</u>	<u>Common Name</u>	<u>CAS No.</u>	<u>Recommended Limits</u>	<u>Composition Range</u>	<u>LD50/LC50</u>
Ethyl alcohol	Ethanol	64-17-5	ACGIH TLV: 1880 mg/m ³	5-10%	N/A
Subtilisin	Protease	9014-01-1	NIOSH STEL 0.00006 mg/m ³	<0.01%	N/A



Protea
Chemicals - Cape
A member of the Omnia Group

[Product Index](#) > **Material Safety**
Datasheet

CAS No 868-14-4
 Date Issued:
 2005/08/12
 CREAM OF TARTAR

Company Details

<u>Name</u>	Protea Chemicals - Cape	<u>Emergency Tel</u>	0824905011
<u>Address</u>	Killarney Ave. Killarney Gardens Milnerton 7441	<u>Tel</u>	021 5508100
	E Mail: evonmaltzahn@proteachemicals.co.za	<u>Fax</u>	021 5508180

1. Product and Company Identification

<u>Trade / Commercial Name</u>	CREAM OF TARTAR		
<u>Chemical Name</u>	Potassium bitartrate		
<u>Formula</u>	C ₄ H ₅ KO ₆		
<u>Chemical Family</u>	Tartrates		
<u>Synonyms</u>	Potassium acid tartrate; Cream; Potassium Hydrogentartrate; L(+)-Potassium hydrogen tartrate;		
<u>Un No</u>	<u>Hazchem Code</u>		1[T]
<u>ERG No</u>	0 EAC		0

2. Composition

Hazardous Components None

3. Hazards Identification

Not Hazardous
 Contact could irritate eyes.
 Fire could produce irritating gases.

4. First Aid Measures

<u>First Aid Skin</u>	Wash with soap and warter.
<u>First Aid Eyes</u>	Flush eyes with water. Hold eyelids open while washing.
<u>First Aid Ingested</u>	Unlikely route of exposure.
<u>First Aid Inhalation</u>	Remove person to fresh air.

5. Fire Fighting Measures

EXTINGUISHING MEDIA: Water (Spray or Fog), Foam, Dry Chemical.
 Use self-contained breathing apparatus.
 Guard against smoldering re-ignition.

CREAM OF TARTAR

Recommend that material be divided into small enough pieces for complete cooling.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

May produce irritating vapours, smoke and toxic decomposition products.

Foam can emit combustible gases making flashback possible.

CONDITIONS OF FLAMMABILITY:

Can be made to burn if in persistent contact with source of ignition.

EG. Open Flame.

6. Accidental Release Measures

Breathing apparatus for fire only.

Dilute (substance may be washed to drain with a lot of water).

Restrict access to area.

Remove sources of heat and flame.

SPILL OR LEAK:

Collect material for re-use or disposal.

7. Handling And Storage**Handling**

Information for safe handling:

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

No special precautions are necessary if used correctly.

Information about protection against explosions and fires:

Keep ignition sources away.

Storage

Requirements to be met by storerooms and receptacles:

No special requirements.

Information about storage in one common storage facility:

Store away from oxidizing agents.

Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

8. Exposure Controls/Personal Protection

Occupational Exposure Limits Not established.

Controls

The control measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure.

The best protection is to enclose operations and/or provide local exhaust ventilation at the site of substance release.

Use a non-sparking, grounded ventilation system separate from other exhaust ventilation systems. Exhaust directly to the outside.

Supply sufficient replacement air to make up for air removed.

Have a safety shower/eye wash fountain readily available in the immediate work area.

Personal Protection

If engineering controls and work practices are not effective in controlling this material, then wear suitable personal protection equipment.

RESPIRATORY PROTECTION: If process creates dust or fumes, wear NIOSH approved respirator.

PROTECTIVE GLOVES : Not required.

EYE PROTECTION : Safety Goggles if processing.

9. Physical & Chemical Properties

21

White powder
Completely soluble in water.

10. Stability And Reactivity

<u>Conditions to Avoid</u>	Decomposition will not occur if used and stored according to specifications
<u>Incompatible Materials</u>	Oxidizing agents
<u>Other</u>	Stable. Dangerous products of decomposition: Carbon monoxide and carbon dioxide.

11. Toxicological Information

EAcute toxicity:
LD/LC50 values that are relevant for classification:
Oral: LDLo: 22 gm/kg (rat)
Primary irritant effect:
on the skin: May cause irritation
on the eye: May cause irritation
Sensitization: No sensitizing effects known.
Subacute to chronic toxicity:
Other than potential irritation (see above), no information on illness or injury from acute or chronic exposure to this product is available.
Additional toxicological information:
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

12. Ecological Information

No ecological problems are expected when the product is handled and used with due care.

13. Disposal Considerations

<u>Disposal Method Product</u>	There are no uniform EC regulations for the disposal of chemicals or residues. The disposal of the latter is regulated in the EC member countries through corresponding laws and regulations. Observe prevailing regulations and incinerate or deposit in land fill.
<u>Disposal Method Packaging</u>	Disposal in accordance with local legal provisions.

14. Transport Information

<u>ERG No</u>	0	<u>Hazchem Code</u>	1[T]
<u>IMDG Code</u>	N/A	<u>EAC</u>	0
<u>Marine Pollutant</u>	False	<u>IMDG-Packaging Group</u>	N/A
<u>Class</u>	N/A		
<u>Subsidiary Risks</u>	N/A		
<u>Tremcard Number</u>	N/A		

15. Regulatory Information

<u>EEC Hazard Classification</u>	N/A
<u>Risk Phases</u>	NONE
<u>Safety Phases</u>	NONE
<u>National Legislation</u>	NOT CONTROLLED

16. Other Information

Reason for Alteration: General update.

The information contained herein is based on the present state of our knowledge.
It characterizes the product with regard to the appropriate safety precautions.
It does not represent a guarantee of the properness of the product.:

LAST PAGE

All information is given in good faith but without guarantee in respect of accuracy & no responsibility is accepted for errors or omissions or the consequences thereof.



Material Safety Data Sheet

E

1. Chemical Product and Company Identification

DESCRIPTION: ELMER'S GLUE-ALL
PRODUCT TYPE: PVAC BASED ADHESIVE
APPLICATION: FOR PRODUCT CODES SEE SECTION 16

Manufacturer/Supplier Information

MSDS Prepared by:

Elmer's Products, Inc.

1 Easton Oval

Columbus, OH 43219

Emergency Phone Number

Poison Control Center

1-888-516-2502

For additional health, safety or regulatory information, call 1-888-435-6377.

Call 1-800-848-9400 to place an order or request additional MSDSs.

2. Composition, Information on Ingredients

No hazardous ingredients known to company.

3. Hazards Identification

3.1 Emergency Overview

Appearance Milky white liquid

Odor Mild acetic aroma

CAUTION!

Not a significant fire hazard.

May cause eye irritation

HMIS Rating

HEALTH = 1 (slight)

FLAMMABILITY = 0 (minimal)

REACTIVITY = 0 (minimal)

3.2 Potential Health Effects

Immediate Hazards

INGESTION: Not expected to be harmful under normal conditions of use.

INHALATION: Not expected to be harmful under normal conditions of use. However, if allowed to become airborne, may cause irritation of nose, throat and lungs.

SKIN: May cause irritation on prolonged or repeated contact.

EYES: May cause irritation on prolonged or repeated contact.

Delayed Hazards

None of the components present in this product at concentrations equal to or greater than 0.1% have been listed by NTP, classified by IARC, nor regulated by OSHA as a carcinogen.

4. First Aid Measures

INGESTION: If accidentally swallowed, dilute by drinking large quantities of water. Immediately contact poison control center or hospital emergency room for any other additional treatment directions.

INHALATION: Remove to fresh air.

SKIN: In case of irritation, flush with water.

EYES: Immediately flush eyes with plenty of water. Call a physician if irritation persists.

5. Fire Fighting Measures

Autoignition Temperature	Not available
Upper/Lower Flammable Limits	Not applicable
Up/Lower Explosive Limits, % by Vol	Not applicable
Flash Point	Not applicable

Will not burn unless water has evaporated. Dried material may burn.

In case of fire, water should be used to keep fire-exposed containers cool.

6. Accidental Release Measures

6. Accidental Release Measures

Soak up with absorbent material and remove to a chemical disposal area. Prevent entry into natural bodies of water.

7. Handling and Storage

7.1 Handling

Handle in accordance with good industrial hygiene and safety practices. Always use appropriate Personal Protective Equipment (PPE).

INHALATION: Avoid prolonged or repeated breathing of vapor.

SKIN: Avoid prolonged or repeated contact with skin and clothing.

EYES: Avoid prolonged or repeated contact with eyes.

7.2 Storage

Keep from freezing.

Store in a cool, dry place.

Keep containers tightly closed.

8. Exposure Controls/Personal Protection

8.1 Exposure Controls

If airborne contaminants are generated when the material is heated or handled, sufficient ventilation in volume and air flow patterns should be provided to keep air contaminant concentration levels below acceptable criteria.

8.2 Personal Protection

Where air contaminants can exceed acceptable criteria, use NIOSH/MSHA approved respiratory protection equipment. Respirators should be selected based on the form and concentration of contaminants in air in accordance with OSHA laws and regulations or other applicable standards or guidelines, including ANSI standards regarding respiratory protection. Use goggles if contact is likely. Wear impervious gloves as required to prevent skin contact.

8.3 Exposure Guidelines

None established

9. Physical and Chemical Properties

Percent Volatiles	63
pH @ 25 C	5
Specific Gravity	1.07
Appearance	Milky white liquid
Autoignition Temperature	Not available
Boiling Point	100 deg C
Vapor Density (Air=1)	< 1
Vapor Pressure, mm Hg @ 20 C	17.5
Evaporation Rate (Butyl Acetate=1)	< 1
Upper/Lower Flammable Limits	Not applicable
Up/Lower Explosive Limits, % by Vol	Not applicable
Flash Point	Not applicable
Freezing Point	0 deg C
Odor	Mild acetic aroma
Odor Threshold, ppm	Not available
Solubility in Water	Dispersible
Coefficient of Water/Oil Distrib.	Not available

10. Stability and Reactivity

Normally stable as defined in NFPA 704-12(4-3.1).

- **Conditions to Avoid:**

Exposure to heat, flame and incompatibles.

- **Incompatibilities:**

Strong acids and alkaline materials.

- **Decomposition products may include:**

CO, CO2.

- **Hazardous polymerization:**

Will not occur.

Other Hazards:

None known to company.

11. Toxicological Information

See Section 3 Hazards Identification information.

12. Ecological Information

Not determined.

13. Disposal Considerations

Recover free liquid. Absorb residue and dispose of according to local, state/provincial, and federal requirements.

14. Transport Information**14.1 U.S. Department of Transportation (DOT)**

The data provided in this section is for information only and may not be specific to your package size. You will need to apply the appropriate regulations to properly classify your shipment for transportation.

Non-Regulated.

14.2 Canadian Transportation of Dangerous Goods (TDG)

Non-Regulated.

15. Regulatory Information (Selected Regulations)**15.1 U.S. Federal Regulations**

OSHA Hazard Communication Standard 29CFR1910.1200

This material is not a "health hazard" or a "physical hazard" as determined when reviewed according to the requirements of the Occupational Safety and Health Administration 29 CFR Part 1910.1200

- **SARA Title III: Section 311/312**

Does not meet any hazard category

- **SARA Title III Section 313 and 40 CFR Part 372**

This product contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and Subpart C-Supplier Notification Requirement of 40 CFR Part 372.

None required per SARA TITLE III SECTION 313.

- **TSCA Section 8(b) Inventory**

All reportable chemical substances are listed on the TSCA Inventory.

We rely on certifications of compliance from our suppliers for chemical substances not manufactured by us.

15.2 Canadian Regulations

- **Workplace Hazardous Materials Information System (WHMIS)**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulation (CPR) and the MSDS contains all the information required by the CPR.

Not a controlled product

- **Canadian Environmental Protection Act (CEPA)**

All reportable chemical substances are listed on the Domestic Substances List (DSL) or otherwise comply with CEPA new substance notification requirements.

- **National Pollutant Release Inventory (NPRI)**

This product contains the following chemical(s) subject to the reporting requirements of the Canadian Environmental Protection Act (CEPA) subsection 16(1), National Pollutant Release Inventory.

None required.

16. Other Information

AP (Non-Toxic): Products bearing the AP Certified Product Seal of The Art & Creative Materials Institute, Inc. (ACMI) are certified in a program of toxicological evaluation by a medical expert to contain no materials in sufficient quantities to be toxic or injurious to humans or to cause acute or chronic health problems. This program is reviewed by ACMI's Toxicological Advisory Board. These products are certified by ACMI to be labeled in accordance with the chronic hazard labeling standard, ASTM D-4236 and Federal law, P.L. 100-695. In addition, there is no physical hazard as defined within 29 CFR Part 1910.1200(c). Additionally, products bearing the AP Seal meet the specific requirements of material, workmanship, working qualities and color described in the appropriate product standard issued by ACMI or other recognized standards organization.

MSDS covers items:

U.S.: E135, E371, E372, E375, E379, E381, E382, E383, E384, E385, E386, E393, E395, E619, E960, E981, E1235, E1366, E1462, E1501
Canada: 60345, 60352, 60355, 60359, 60375, 60382, 60383, 60385, 60387, 60395, 65120

• **User's Responsibility**

The OSHA Hazard Communication Standard 29CFR 1910.1200 and the Workplace Hazardous Materials Information System (WHMIS) require that the information contained on these sheets be made available to your workers. Educate and train your workers regarding OSHA and WHMIS precautions. Instruct your workers to handle this product properly. Consult with appropriate experts to guard against hazards associated with use of this product and its ingredients.

• **Disclaimer**

SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE, except that the product shall conform to contracted specifications, and that the product does not infringe any valid United States or Canadian patent. No claim of any kind shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is

be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise.

CURRENT ISSUE: 19-FEB-09

PREVIOUS ISSUE: 23-MAY-08



Material Safety Data Sheet

F

1. Chemical Product and Company Identification

DESCRIPTION: ELMER'S WASHABLE SCHOOL GLUE
PRODUCT TYPE: PVAC BASED ADHESIVE.
APPLICATION: FOR PRODUCT CODES SEE SECTION 16

• Manufacturer/Supplier Information

MSDS Prepared by:
Elmer's Products, Inc. Emergency Phone Number
1000 Kingsmill Parkway Poison Control Center
Columbus, OH 43229 1-800-228-5635 ext 22

For additional health, safety or regulatory information, call 614-985-6440
ext 14. Call 1-800-848-9400 to place an order or request additional MSDSs.

2. Composition, Information on Ingredients

No hazardous ingredients known to company.

3. Hazards Identification

3.1 Emergency Overview

Appearance	Milky white liquid
Odor	Mild acetic aroma
Not an immediate health hazard.	

• HMIS Rating

HEALTH = 0 (minimal)
FLAMMABILITY = 0 (minimal)
REACTIVITY = 0 (minimal)

3.2 Potential Health Effects

• Immediate Hazards

INGESTION: No hazards known to company.
INHALATION: No hazards known to company.
SKIN: No hazards known to company.
EYES: No hazards known to company.

• Delayed Hazards

None of the components present in this product at concentrations equal to or greater than 0.1% have been listed by NTP, classified by IARC, nor regulated by OSHA as a carcinogen.

4. First Aid Measures

INGESTION: If accidentally swallowed, dilute by drinking large quantities of water. Immediately contact poison control

center or hospital emergency room for any other additional treatment directions.

EYES: Immediately flush eyes with plenty of water. Call a physician if irritation persists.

5. Fire Fighting Measures

Autoignition Temperature	Not available
Upper/Lower Flammable Limits	Not applicable
Up/Lower Explosive Limits, % by Vol	Not applicable
Flash Point	Not applicable

Will not burn unless water has evaporated. Dried material may burn.

In case of fire, water should be used to keep fire-exposed containers cool.

6. Accidental Release Measures

Soak up with absorbent material and remove to a chemical disposal area. Prevent entry into natural bodies of water.

7. Handling and Storage

7.1 Handling

Handle in accordance with good industrial hygiene and safety practices.

7.2 Storage

Keep from freezing.
Store in a cool, dry place.
Keep containers tightly closed.

8. Exposure Controls/Personal Protection

8.1 Exposure Controls

No special control measures necessary under normal conditions of use.

8.2 Personal Protection

No special protection necessary.

8.3 Exposure Guidelines

None established

9. Physical and Chemical Properties

Percent Volatiles	70
pH @ 25 C	4.7
Specific Gravity	1.05
Appearance	Milky white liquid
Autoignition Temperature	Not available
Boiling Point	100 deg C
Vapor Density (Air=1)	< 1
Vapor Pressure, mm Hg @ 20 C	17
Evaporation Rate (Butyl Acetate=1)	< 1
Upper/Lower Flammable Limits	Not applicable
Up/Lower Explosive Limits, % by Vol	Not applicable
Flash Point	Not applicable
Freezing Point	0 deg C
Odor	Mild acetic aroma
Odor Threshold, ppm	Not available
Solubility in Water	Dispersible

Coefficient of Water/Oil Distrib. Not available

10. Stability and Reactivity

Normally stable as defined in NFPA 704-12(4-3.1).

• Conditions to Avoid:

Exposure to heat, flame and incompatibles.

• Incompatibilities:

Strong acids and alkaline materials.

• Decomposition products may include:

CO, CO₂.

• Hazardous polymerization:

Will not occur.

• Other Hazards:

None known to company.

11. Toxicological Information

INGESTION: Not toxic orally when tested as described in 16 CFR Part 1500.3 (c)(1) and (2).

INHALATION: Not toxic by inhalation when tested as described in 16 CFR Part 1500.3 (c)(1) and (2).

SKIN ABSORPTION: Not toxic dermally when tested as described in 16 CFR Part 1500.3 (c)(1) and (2).

SKIN: Not an irritant when tested as described in 16 CFR Part 1500.41.

EYES: Not an irritant when tested as described in 16 CFR Part 1500.42.

12. Ecological Information

Not determined.

13. Disposal Considerations

Recover free liquid. Absorb residue and dispose of according to local, state/provincial, and federal requirements.

14. Transport Information

14.1 U.S. Department of Transportation (DOT)

The data provided in this section is for information only and may not be specific to your package size. You will need to apply the appropriate regulations to properly classify your shipment for transportation.

Non-Regulated.

14.2 Canadian Transportation of Dangerous Goods (TDG)

Non-Regulated.

15. Regulatory Information (Selected Regulations)

15.1 U.S. Federal Regulations

- **OSHA Hazard Communication Standard 29CFR1910.1200**

This material is not a "health hazard" or a "physical hazard" as determined when reviewed according to the requirements of the Occupational Safety and Health Administration 29 CFR Part 1910.1200 "Hazard Communication" Standard.

- **SARA Title III: Section 311/312**

Does not meet any hazard category

- **SARA Title III Section 313 and 40 CFR Part 372**

This product contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and Subpart C-Supplier Notification Requirement of 40 CFR Part 372.
None required per SARA TITLE III SECTION 313.

- **TSCA Section 8(b) Inventory**

All reportable chemical substances are listed on the TSCA Inventory. We rely on certifications of compliance from our suppliers for chemical substances not manufactured by us.

15.2 Canadian Regulations

- **Workplace Hazardous Materials Information System (WHMIS)**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulation (CPR) and the MSDS contains all the information required by the CPR.

Not a controlled product

- **Canadian Environmental Protection Act (CEPA)**

All reportable chemical substances are listed on the Domestic Substances List (DSL) or otherwise comply with CEPA new substance notification requirements.

- **National Pollutant Release Inventory (NPRI)**

This product contains the following chemical(s) subject to the reporting requirements of the Canadian Environmental Protection Act (CEPA) subsection 16(1), National Pollutant Release Inventory. None required.

16. Other Information

AP (Non-Toxic): Products bearing the AP (Non-Toxic) Product Seal of The Art & Creative Materials Institute, Inc. (ACMI) are certified in a program of toxicological evaluation by a medical expert to contain no materials in sufficient quantities to be toxic or injurious to humans or to cause acute or chronic health problems. This program is reviewed by ACMI's Toxicological Advisory Board. These products are certified by ACMI to be labeled in accordance with the chronic hazard labeling standard, ASTM D-4236 and Federal Law, P.L. 100-695. In addition, there is no physical hazard as defined within 29 CFR Part 1910.1200(c).

MSDS covers items:

U.S.: E301, E304, E308, E330, E340

Canada: 60300, 60307, 60310, 60331, 60341

• User's Responsibility

The OSHA Hazard Communication Standard 29CFR 1910.1200 and the Workplace

Hazardous Materials Information System (WHMIS) require that the information

contained on these sheets be made available to your workers. Educate and

train your workers regarding OSHA and WHMIS precautions. Instruct your workers to handle this product properly. Consult with appropriate experts

to guard against hazards associated with use of this product and its ingredients.

• Disclaimer

SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE

MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE, except that the product

shall conform to contracted specifications, and that the product does not

infringe any valid United States or Canadian patent. No claim of any kind

shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall

Seller be liable for incidental or consequential damages, whether Buyer's claim is

based on contract, breach of warranty, negligence or otherwise.

CUR ISSUE 18-JAN-02
PREVIOUS ISSUE: 29-MAY-01



Material Safety Data Sheet

E

1. Chemical Product and Company Identification

DESCRIPTION: ELMER'S WASHABLE SCHOOL GLUE
 PRODUCT TYPE: PVAC BASED ADHESIVE.
 APPLICATION: FOR PRODUCT CODES SEE SECTION 16

Manufacturer/Supplier Information

MSDS Prepared by:	
Elmer's Products, Inc.	Emergency Phone Number
1 Easton Oval	Poison Control Center
Columbus, OH 43219	1-888-516-2502
For additional health, safety or regulatory information, call 1-888-435-6377	
Call 1-800-848-9400 to place an order or request additional MSDSs.	

2. Composition, Information on Ingredients

No hazardous ingredients known to company.

3. Hazards Identification

3.1 Emergency Overview

Appearance	Milky white liquid
Odor	Mild acetic aroma
Not an immediate health hazard.	

HMIS Rating

HEALTH = 0 (minimal)
 FLAMMABILITY = 0 (minimal)
 REACTIVITY = 0 (minimal)

3.2 Potential Health Effects

Immediate Hazards

INGESTION: No hazards known to company.
INHALATION: No hazards known to company.
SKIN: No hazards known to company.
EYES: No hazards known to company.

Delayed Hazards

None of the components present in this product at concentrations equal to or greater than 0.1% have been listed by NTP, classified by IARC, nor regulated by OSHA as a carcinogen.

4. First Aid Measures

INGESTION: If accidentally swallowed, dilute by drinking large quantities of water. Immediately contact poison control center or hospital emergency room for any other additional treatment directions.
EYES: Immediately flush eyes with plenty of water. Call a physician if irritation persists.

5. Fire Fighting Measures

Autoignition Temperature Not available
Upper/Lower Flammable Limits Not applicable
Up/Lower Explosive Limits, % by Vol Not applicable
Flash Point Not applicable
Will not burn unless water has evaporated. Dried material may burn.
In case of fire, water should be used to keep fire-exposed containers cool.

6. Accidental Release Measures

Soak up with absorbent material and remove to a chemical disposal area. Prevent entry into natural bodies of water.

7. Handling and Storage

7.1 Handling

Handle in accordance with good industrial hygiene and safety practices.

7.2 Storage

Keep from freezing.
Store in a cool, dry place.
Keep containers tightly closed.

8. Exposure Controls/Personal Protection

8.1 Exposure Controls

No special control measures necessary under normal conditions of use.

8.2 Personal Protection

No special protection necessary.

8.3 Exposure Guidelines

None established

9. Physical and Chemical Properties

Percent Volatiles	70
pH @ 25 C	4.7
Specific Gravity	1.05
Appearance	Milky white liquid
Autoignition Temperature	Not available
Boiling Point	100 deg C
Vapor Density (Air=1)	< 1
Vapor Pressure, mm Hg @ 20 C	17
Evaporation Rate (Butyl Acetate=1)	< 1
Upper/Lower Flammable Limits	Not applicable
Up/Lower Explosive Limits, % by Vol	Not applicable
Flash Point	Not applicable
Freezing Point	0 deg C
Odor	Mild acetic aroma
Odor Threshold, ppm	Not available
Solubility in Water	Dispersible
Coefficient of Water/Oil Distrib.	Not available

10. Stability and Reactivity

Normally stable as defined in NFPA 704-12(4-3.1).

Conditions to Avoid:

Exposure to heat, flame and incompatibles.

Incompatibilities:

Strong acids and alkaline materials.

Decomposition products may include:

CO, CO₂.

Hazardous polymerization:

Will not occur.

Other Hazards:

None known to company.

11. Toxicological Information

INGESTION: Not toxic orally when tested as described in 16 CFR Part 1500.3 (c)(1) and (2).
INHALATION: Not toxic by inhalation when tested as described in 16 CFR Part 1500.3 (c)(1) and (2).
SKIN ABSORPTION: Not toxic dermally when tested as described in 16 CFR Part 1500.3 (c)(1) and (2).
SKIN: Not an irritant when tested as described in 16 CFR Part 1500.41.
EYES: Not an irritant when tested as described in 16 CFR Part 1500.42.

12. Ecological Information

Not determined.

13. Disposal Considerations

Recover free liquid. Absorb residue and dispose of according to local, state/provincial, and federal requirements.

14. Transport Information

14.1 U.S. Department of Transportation (DOT)

The data provided in this section is for information only and may not be specific to your package size. You will need to apply the appropriate regulations to properly classify your shipment for transportation.

Non-Regulated.

14.2 Canadian Transportation of Dangerous Goods (TDG)

Non-Regulated.

15. Regulatory Information (Selected Regulations)

15.1 U.S. Federal Regulations

OSHA Hazard Communication Standard 29CFR1910.1200

This material is not a "health hazard" or a "physical hazard" as determined when reviewed according to the requirements of the Occupational Safety and Health Administration 29 CFR Part 1910.1200 "Hazard Communication" Standard.

SARA Title III: Section 311/312

Does not meet any hazard category

SARA Title III Section 313 and 40 CFR Part 372

This product contains the following toxic chemical(s) subject to the

reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and Subpart C-Supplier Notification Requirement of 40 CFR Part 372.
None required per SARA TITLE III SECTION 313.

TSCA Section 8(b) Inventory

All reportable chemical substances are listed on the TSCA Inventory. We rely on certifications of compliance from our suppliers for chemical substances not manufactured by us.

15.2 Canadian Regulations

Workplace Hazardous Materials Information System (WHMIS)

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulation (CPR) and the MSDS contains all the information required by the CPR.
Not a controlled product

Canadian Environmental Protection Act (CEPA)

All reportable chemical substances are listed on the Domestic Substances List (DSL) or otherwise comply with CEPA new substance notification requirements.

National Pollutant Release Inventory (NPRI)

This product contains the following chemical(s) subject to the reporting requirements of the Canadian Environmental Protection Act (CEPA) subsection 16(1), National Pollutant Release Inventory.
None required.

16. Other Information

AP (Non-Toxic): Products bearing the AP (Non-Toxic) Product Seal of The Art & Creative Materials Institute, Inc. (ACMI) are certified in a program of toxicological evaluation by a medical expert to contain no materials in sufficient quantities to be toxic or injurious to humans or to cause acute or chronic health problems. This program is reviewed by ACMI's Toxicological Advisory Board. These products are certified by ACMI to be labeled in accordance with the chronic hazard labeling standard, ASTM D-4236 and Federal Law, P.L. 100-695. In addition, there is no physical hazard as defined within 29 CFR Part 1910.1200(c).

MSDS covers items:

U.S.: E134, E301, E304, E308, E330, E340, E1304, E1500

User's Responsibility

The OSHA Hazard Communication Standard 29CFR 1910.1200 and the Workplace Hazardous Materials Information System (WHMIS) require that the information contained on these sheets be made available to your workers. Educate and train your workers regarding OSHA and WHMIS precautions. Instruct your workers to handle this product properly. Consult with appropriate experts to guard against hazards associated with use of this product and its ingredients.

Disclaimer

SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE, except that the product shall conform to contracted specifications, and that the product does not infringe any valid United States or Canadian patent. No claim of any kind shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise.

CURRENT ISSUE: 14-JAN-08
PREVIOUS ISSUE: 05-OCT-07

Effervescent Aspirin Pain Relief Tablets (421)

MATERIAL SAFETY DATA SHEET

Page 1 of 4

1. CHEMICAL PRODUCT / COMPANY IDENTIFICATION

Product Name: **Effervescent Aspirin Pain Relief Tablets (421)**
Description: Antacid & Pain Relief
CAS Number: Proprietary and not applicable to blends or mixtures

Company Identification: **Tower Laboratories Ltd.**
8 Industrial Park Road (P.O. Box 306)
Centerbrook, CT 06409
U.S.A.
Telephone: **(860) 767-2127**
Fax number: **(860) 767-2129**

2. COMPOSITION / INFORMATION ON INGREDIENTS

CAS Number	Ingredient Name	%Wt.	TLV
50-78-2	Aspirin	10	5.00 mg/m ³ TWA
77-92-9	Citric Acid	31	Not established
144-55-8	Sodium Bicarbonate	59	Not established

OSHA PELs: Not Established

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Product poses little or no hazard if spilled and no unusual hazard if involved in a fire. See Potential Health Effects if the recommended dosage is exceeded.

POTENTIAL HEALTH EFFECTS (ACUTE and CHRONIC):

ACUTE EXPOSURE

Exceeding the recommended dosage may cause: rapid or deep breathing, confusion, agitation, nausea, vomiting, diminished hearing, ringing in the ears, hemorrhage, acid/base imbalances, coma, seizures, low blood pressure, irregular heartbeat, drowsiness, flushing, fever, convulsions. Allergic reactions are possible with symptoms of reddening, itching, rash, swelling of the face, throat or tongue, and breathing problems.

CHRONIC EXPOSURE

Chronic overexposure to this product may cause effects as noted under acute overexposure, disturbances in liver function, disturbances in kidney function.

AGGRAVATION OF PRE-EXISTING CONDITIONS:

Do not take this product without first consulting a health professional, if you have one of the following conditions: Asthma, Allergic to aspirin, Gastrointestinal ulcers or bleeding, High blood pressure, Congestive heart failure, Kidney disorders, Taking prescription medications, Persons who are at risk for hemorrhage, Young children, the elderly and pregnant women may be more susceptible to the effects of this product, Children and teenagers with chickenpox or flu symptoms (consult a doctor about Reye's Syndrome), Persons consuming alcohol may be more susceptible to the effects of this product.

4. FIRST AID MEASURES

INHALATION FIRST AID: Not applicable.

SKIN CONTACT FIRST AID: Not applicable.

EYE CONTACT FIRST AID: In case of contact, flush with plenty of water for at least 15 minutes. Call a physician.

INGESTION FIRST AID: In case of overdose, contact your regional poison control center or physician immediately.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES: Not flammable.

FLAMMABLE LIMITS IN AIR, % BY VOLUME: Not established.

AUTOIGNITION TEMPERATURE: Not applicable.

EXTINGUISHING MEDIA: Water

SPECIAL FIRE FIGHTING PROCEDURES: Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes.

6. ACCIDENTAL RELEASE MEASURES

SPILLS PROCEDURE: Spills should be swept up and placed in appropriate containers for disposal. Avoid creating dusty conditions.

7. HANDLING AND STORAGE

RECOMMENDED STORAGE CONDITIONS: Room Temperature. Store in a dry place away from excessive heat.

SHELF LIFE: Do not use after expiration date.

HANDLING (PERSONNEL): Keep this and all drugs out of the reach of children. Avoid contact with eyes. Avoid contact with skin or clothing. Wash thoroughly after handling. Store in a dry place away from excessive heat. Reseal containers immediately after use. Use normal precautions for storage of a drug.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

VENTILATION SYSTEM: Under normal conditions of use, special ventilation is not required.

PERSONAL RESPIRATORS (NIOSH APPROVED): Under normal conditions for use, respiratory protection is not required.

SKIN PROTECTION: No special skin protection requirements during normal handling and use.

EYE PROTECTION: None for normal use.

AIRBORNE EXPOSURE LIMITS: Refer to OSHA PELs in Section 2 above.

9. PHYSICAL AND CHEMICAL PROPERTIES

FORM: Solid
ODOR: Odorless
SPECIFIC GRAVITY: Not Applicable
MELTING / FREEZING POINT: Not applicable
pH: Not applicable

COLOR: White
BOILING POINT: Not applicable
BULK DENSITY: Not applicable
VAPOR PRESSURE: Not applicable

10. STABILITY AND REACTIVITY

STABILITY: Stable.

CONDITIONS TO AVOID: Avoid extreme heat. Avoid contact with moisture/water.

POLYMERIZATION: Will not occur.

SUBSTANCES TO AVOID: See carton for full directions and warnings.

DECOMPOSITION PRODUCTS: None known.

11. TOXICOLOGICAL INFORMATION

TOXICITY: No data available for this product.

TOXICITY OF ASPIRIN: Acute oral toxicity: LD50 => 1,100 mg/kg (Rat)

12. ECOLOGICAL INFORMATION

No data available for this product.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: Dispose of material in accordance with federal, state and local requirements. (State and local disposal regulations may differ from federal disposal regulations.)

14. TRANSPORTATION INFORMATION

Per recommended practices and procedures for land, sea, and air transportation as recognized by the:
US Dept. of Transportation (DOT)
International Maritime Organization (IMO)
International Civil Aviation Organization (ICAO)

PROPER SHIPPING NAME: Nonprescription Drug

HAZARD CLASSIFICATION: Non-Regulated

15. REGULATORY INFORMATION

This product is exempt from TSCA Regulation when used for pharmaceutical application.

This product is exempt under SARA § 302 and § 311 and § 312 and § 313.

This material is not subject to the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

16. OTHER INFORMATION

HMIS Rating: Health – 1 Flammability – 0 Reactivity – 0

0 = Minimal, 1 = Slight, 2 = Moderate, 3 = Serious, 4 = Severe

ADDITIONAL INFORMATION:

The data in this Material Safety Data Sheet relates only to the specific material designated herein. It does not relate to use in combination with any other material or in any process. This Material Safety Data Sheet (MSDS) has been reviewed to fully comply with the guidance contained in the ANSI MSDS Standard (ANSI Z400.1-2005).

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Tower Laboratories Ltd. The data on this sheet are related only to the specific material designated herein. Tower laboratories Ltd. assumes no legal responsibility for use or reliance upon these data.

END OF MSDS

MATERIAL SAFETY DATA SHEET

McCormick and Company, Inc

773389 - BLUE FOOD COLOR

PAGE : 1 of 4
DATE PRINTED : 11/16/2006

Section 1 - Product and Company Information

PRODUCT NAME : BLUE FOOD COLOR
FORMULA # : 773389

SUPPLIER : McCormick and Company, Inc
18 Loveton Circle
Sparks, Maryland 21152
(410) 771-7500 8:30AM - 5:00PM EST

CHEMTREC - 24 HOUR EMERGENCY : 800-424-9300

Section 2 - Hazards Identification

EMERGENCY OVERVIEW

APPEARANCE: Liquid

ODOR : Odorless

NFPA HAZARD CLASSIFICATIONS : Health : 1 Flammability : 1 Reactivity : 0

POTENTIAL HEALTH EFFECTS

All ingredients contained in this product are approved for use in a regulation of the Food and Drug Administration or on the FEMA GRAS List. Based on health hazard determination of ingredients contained at a concentration of one percent or greater, this mixture may exhibit the following health hazards:

ACUTE EFFECTS

Inhalation: Inhalation may cause respiratory irritation.

Eye: May be irritating to eyes.

Skin: May be irritating to skin.

Ingestion: The ingestion of "large amounts" has been reported to cause poisoning.

PRIMARY TARGET ORGANS: No known effect.

CHRONIC EFFECTS: Repeated excessive ingestion may cause central nervous system effects.

Section 3 - Composition/Information on Ingredients

With the exception of the items listed below, the identity of individual components of this mixture is proprietary information and is considered to be a trade secret.

PRINCIPAL HAZARDOUS COMPONENT(S)	CAS NUMBER
PROPYLENE GLYCOL FD&C BLUE #1	57-55-6

Section 4 - First Aid Measures

RELATED PACK CODES

773389

MATERIAL SAFETY DATA SHEET

McCormick and Company, Inc

773389 - BLUE FOOD COLOR

PAGE : 2 of 4
DATE PRINTED : 11/16/2006

EYE CONTACT : In the event of contact with eyes, irrigate with water for at least 15 minutes; obtain medical advice immediately.
SKIN CONTACT : Remove contaminated clothes. Wash affected area with water. If irritation persists, obtain medical advice.
INHALATION : Remove to fresh air and seek medical attention if necessary.
INGESTION : In the event of accidental ingestion, rinse mouth with water. Give up to one tumbler (half pint) of milk or water. Obtain medical advice immediately.

Section 5 - Fire-Fighting Measures

FLASH POINT : > 98 °C / > 210 °F
EXTINGUISHING MEDIA : Water, Foam, Carbon dioxide (CO2), Dry chemical
FIRE FIGHTING PROCEDURES : Use standard procedures and preferred extinguishing media above.
UNUSUAL FIRE AND EXPLOSION HAZARDS : None
HAZARDOUS COMBUSTION PRODUCTS (Released upon burning) : Carbon monoxide, Carbon dioxide, Smoke
SPECIAL PROTECTIVE EQUIPMENT : For fires in enclosed areas, fire fighters must use self-contained breathing apparatus.

Section 6 - Accidental Release Measures

LAND SPILL : Absorb spill with inert material (e.g., cloth, sand, sawdust) and then place in suitable containers for recycling or disposal. Consult an expert on disposal of recovered material and ensure conformity to local, state, and federal disposal regulations.
WATER SPILL : Prevent additional discharge of material, if possible to do so without hazard. Advise authorities if floating material enters a watercourse or sewer. If possible, try to contain floating material and skim from surface. Consult an expert on disposal of recovered material and ensure conformity to local, state, and federal disposal regulations.
PERSONAL PRECAUTIONS : Wear appropriate personal protective equipment when cleaning up spills. Refer to Section 8.

Section 7 - Handling and Storage

HANDLING : Keep product away from heat and open flame. Keep container closed when not in use. See Section 8 for additional personal protection advice when handling this product.
STORAGE : Store in a cool, dry area with adequate ventilation.
EMPTY CONTAINER WARNING : Empty containers may retain residue (including vapors) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with government regulations.

Section 8 - Exposure Controls/Personal Protection

RELATED PACK CODES
773389

MATERIAL SAFETY DATA SHEET

McCormick and Company, Inc

773389 - BLUE FOOD COLOR

PAGE : 3 of 4
DATE PRINTED : 11/16/2006

ENGINEERING CONTROLS : Ventilation should be provided to control worker exposures and prevent health risk.

RESPIRATORY PROTECTION : Respiratory protection recommended. Whenever workplace conditions warrant a respirator's use, seek professional guidance prior to respirator selection and follow OSHA respirator regulations (29 CFR 1910.134).

EYE PROTECTION : Safety glasses recommended.

SKIN PROTECTION : Where contact is likely, wear protective gloves or clothing.

OTHER PROTECTION : None required.

EXPOSURE GUIDELINES :

Component	OSHA PEL	ACGIH TLV	ACGIH STEL	Supplier
PROPYLENE GLYCOL	None	None	None	None

GENERAL HYGIENE CONSIDERATIONS : Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9 - Physical and Chemical Properties

APPEARANCE : Liquid
ODOR : Odorless
FLASH POINT : > 98 °C / > 210 °F
DENSITY : 8.49 LB/GAL
SOLUBILITY IN WATER : Soluble

Section 10 - Stability and Reactivity

STABILITY : Presents no significant reactivity hazard.
INCOMPATIBILITY (MATERIALS TO AVOID) : Avoid strong oxidizing agents.
POSSIBILITY OF HAZARDOUS REACTIONS : Will not occur.
HAZARDOUS DECOMPOSITION PRODUCTS : Product does not undergo explosive decomposition.
CONDITIONS TO AVOID : Extreme heat and high energy sources of ignition.

Section 11 - Toxicological Information

ACUTE EYE EFFECTS : Not established.
ACUTE DERMAL EFFECTS : Not established.
ACUTE INHALATION EFFECTS : Not established.
ACUTE ORAL EFFECTS : Not established.

Section 12 - Ecological Information

No specific ecological data are available for this product. Please refer to Section 6 for information regarding accidental releases and Section 15 for regulatory reporting information.

RELATED PACK CODES
773389

MATERIAL SAFETY DATA SHEET

McCormick and Company, Inc

773389 - BLUE FOOD COLOR

PAGE : 4 of 4
DATE PRINTED : 11/16/2006

Section 13 - Disposal Considerations

Incineration or sanitary landfill in accordance with local, state, and federal regulations.

Section 14 - Transport Information

DEPARTMENT OF TRANSPORTATION (DOT) :
Not Regulated. Consult your transportation compliance group for possible classifications pertaining to other modes of transport.

Section 15 - Regulatory Information

All ingredients contained in this product are approved for use in a regulation of the Food and Drug Administration or on the FEMA GRAS List.

Section 16 - Other Information

PREPARED BY : McCormick and Company, Inc
REVISION DATE : 11/16/2006 **VERSION :** 1

The information contained in this MSDS is based on data available to us at this time. Although reasonable care has been taken in the preparation of this MSDS, no warranty of merchantability, fitness for any particular purpose, or any other warranty is expressed or is to be implied regarding the accuracy or completeness of this information, the results to be obtained from the use of this information or the product, the safety of this product or the hazards related to its use.

MATERIAL SAFETY DATA SHEET

McCormick and Company, Inc

773388 - YELLOW FOOD COLOR

PAGE : 1 of 4
DATE PRINTED : 11/16/2006

Section 1 - Product and Company Information

PRODUCT NAME : YELLOW FOOD COLOR
FORMULA # : 773388

SUPPLIER : McCormick and Company, Inc
18 Loveton Circle
Sparks, Maryland 21152
(410) 771-7500 8:30AM - 5:00PM EST

CHEMTREC - 24 HOUR EMERGENCY : 800-424-9300

Section 2 - Hazards Identification

EMERGENCY OVERVIEW

APPEARANCE: Dark yellow liquid

ODOR : Odorless

NFPA HAZARD CLASSIFICATIONS : Health : 1 Flammability : 1 Reactivity : 0

POTENTIAL HEALTH EFFECTS

All ingredients contained in this product are approved for use in a regulation of the Food and Drug Administration or on the FEMA GRAS List. Based on health hazard determination of ingredients contained at a concentration of one percent or greater, this mixture may exhibit the following health hazards:

ACUTE EFFECTS

Inhalation: Inhalation may cause respiratory irritation.

Eye: May be irritating to eyes.

Skin: May be irritating to skin.

Ingestion: The ingestion of "large amounts" has been reported to cause poisoning.

PRIMARY TARGET ORGANS: No known effect.

CHRONIC EFFECTS: Repeated excessive ingestion may cause central nervous system effects.

Section 3 - Composition/Information on Ingredients

With the exception of the items listed below, the identity of individual components of this mixture is proprietary information and is considered to be a trade secret.

PRINCIPAL HAZARDOUS COMPONENT(S)	CAS NUMBER
FD&C YELLOW #5 PROPYLENE GLYCOL	57-55-6

Section 4 - First Aid Measures

RELATED PACK CODES

773388

MATERIAL SAFETY DATA SHEET

McCormick and Company, Inc

773388 - YELLOW FOOD COLOR

PAGE : 2 of 4
DATE PRINTED : 11/16/2006

EYE CONTACT : In the event of contact with eyes, irrigate with water for at least 15 minutes; obtain medical advice immediately.

SKIN CONTACT : Remove contaminated clothes. Wash affected area with water. If irritation persists, obtain medical advice.

INHALATION : Remove to fresh air and seek medical attention if necessary.

INGESTION : In the event of accidental ingestion, rinse mouth with water. Give up to one tumbler (half pint) of milk or water. Obtain medical advice immediately.

Section 5 - Fire-Fighting Measures

FLASH POINT : > 98 °C / > 210 °F

EXTINGUISHING MEDIA : Water, Foam, Carbon dioxide (CO₂), Dry chemical

FIRE FIGHTING PROCEDURES : Use standard procedures and preferred extinguishing media above.

UNUSUAL FIRE AND EXPLOSION HAZARDS : None

HAZARDOUS COMBUSTION PRODUCTS (Released upon burning) : Carbon monoxide, Carbon dioxide, Smoke

SPECIAL PROTECTIVE EQUIPMENT : For fires in enclosed areas, fire fighters must use self-contained breathing apparatus.

Section 6 - Accidental Release Measures

LAND SPILL : Absorb spill with inert material (e.g., cloth, sand, sawdust) and then place in suitable containers for recycling or disposal. Consult an expert on disposal of recovered material and ensure conformity to local, state, and federal disposal regulations.

WATER SPILL : Prevent additional discharge of material, if possible to do so without hazard. Advise authorities if floating material enters a watercourse or sewer. If possible, try to contain floating material and skim from surface. Consult an expert on disposal of recovered material and ensure conformity to local, state, and federal disposal regulations.

PERSONAL PRECAUTIONS : Wear appropriate personal protective equipment when cleaning up spills. Refer to Section 8.

Section 7 - Handling and Storage

HANDLING : Keep product away from heat and open flame. Keep container closed when not in use. See Section 8 for additional personal protection advice when handling this product.

STORAGE : Store in a cool, dry area with adequate ventilation.

EMPTY CONTAINER WARNING : Empty containers may retain residue (including vapors) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with government regulations.

Section 8 - Exposure Controls/Personal Protection

RELATED PACK CODES

773388

MATERIAL SAFETY DATA SHEET

McCormick and Company, Inc

773388 - YELLOW FOOD COLOR

PAGE : 3 of 4
DATE PRINTED : 11/16/2006

ENGINEERING CONTROLS : Ventilation should be provided to control worker exposures and prevent health risk.

RESPIRATORY PROTECTION : Respiratory protection recommended. Whenever workplace conditions warrant a respirator's use, seek professional guidance prior to respirator selection and follow OSHA respirator regulations (29 CFR 1910.134).

EYE PROTECTION : Safety glasses recommended.

SKIN PROTECTION : Where contact is likely, wear protective gloves or clothing.

OTHER PROTECTION : None required.

EXPOSURE GUIDELINES :

Component	OSHA PEL	ACGIH TLV	ACGIH STEL	Supplier
PROPYLENE GLYCOL	None	None	None	None

GENERAL HYGIENE CONSIDERATIONS : Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9 - Physical and Chemical Properties

APPEARANCE : Dark yellow liquid

ODOR : Odorless

FLASH POINT : > 98 °C / > 210 °F

DENSITY : 8.68 LB/GAL

SOLUBILITY IN WATER : Soluble

Section 10 - Stability and Reactivity

STABILITY : Presents no significant reactivity hazard.

INCOMPATIBILITY (MATERIALS TO AVOID) : Avoid strong oxidizing agents.

POSSIBILITY OF HAZARDOUS REACTIONS : Will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS : Product does not undergo explosive decomposition.

CONDITIONS TO AVOID : Extreme heat and high energy sources of ignition.

Section 11 - Toxicological Information

ACUTE EYE EFFECTS : Not established.

ACUTE DERMAL EFFECTS : Not established.

ACUTE INHALATION EFFECTS : Not established.

ACUTE ORAL EFFECTS : Not established.

Section 12 - Ecological Information

No specific ecological data are available for this product. Please refer to Section 6 for information regarding accidental releases and Section 15 for regulatory reporting information.

RELATED PACK CODES

773388

MATERIAL SAFETY DATA SHEET

McCormick and Company, Inc

773388 - YELLOW FOOD COLOR

PAGE : 4 of 4
DATE PRINTED : 11/16/2006

Section 13 - Disposal Considerations

Incineration or sanitary landfill in accordance with local, state, and federal regulations.

Section 14 - Transport Information

DEPARTMENT OF TRANSPORTATION (DOT) :
Not Regulated. Consult your transportation compliance group for possible classifications pertaining to other modes of transport.

Section 15 - Regulatory Information

All ingredients contained in this product are approved for use in a regulation of the Food and Drug Administration or on the FEMA GRAS List.

Section 16 - Other Information

PREPARED BY : McCormick and Company, Inc
REVISION DATE : 11/16/2006 **VERSION :** 1

The information contained in this MSDS is based on data available to us at this time. Although reasonable care has been taken in the preparation of this MSDS, no warranty of merchantability, fitness for any particular purpose, or any other warranty is expressed or is to be implied regarding the accuracy or completeness of this information, the results to be obtained from the use of this information or the product, the safety of this product or the hazards related to its use.

MATERIAL SAFETY DATA SHEET**McCormick and Company, Inc**

773302 - RED FOOD COLOR DC 2.5%

PAGE : 1 of 4
DATE PRINTED : 11/09/2006**Section 1 - Product and Company Information****PRODUCT NAME :** RED FOOD COLOR DC 2.5%
FORMULA # : 773302**SUPPLIER :** McCormick and Company, Inc
18 Loveton Circle
Sparks, Maryland 21152
(410) 771-7500 8:30AM - 5:00PM EST**CHEMTREC - 24 HOUR EMERGENCY :** 800-424-9300**Section 2 - Hazards Identification****EMERGENCY OVERVIEW****APPEARANCE:** Dark red liquid**ODOR :** Odorless**NFPA HAZARD CLASSIFICATIONS :** Health : 1 Flammability : 1 Reactivity : 0**POTENTIAL HEALTH EFFECTS**

All ingredients contained in this product are approved for use in a regulation of the Food and Drug Administration or on the FEMA GRAS List. Based on health hazard determination of ingredients contained at a concentration of one percent or greater, this mixture may exhibit the following health hazards:

ACUTE EFFECTS**Inhalation:** Inhalation may cause respiratory irritation.**Eye:** May be irritating to eyes.**Skin:** May be irritating to skin.**Ingestion:** The ingestion of "large amounts" has been reported to cause poisoning.**PRIMARY TARGET ORGANS:** No known effect.**CHRONIC EFFECTS:** Repeated excessive ingestion may cause central nervous system effects. Similar effects have not been reported in humans.**Section 3 - Composition/Information on Ingredients**

With the exception of the items listed below, the identity of individual components of this mixture is proprietary information and is considered to be a trade secret.

PRINCIPAL HAZARDOUS COMPONENT(S)	CAS NUMBER
PROPYLENE GLYCOL FD&C RED #40	57-55-6

Section 4 - First Aid Measures**RELATED PACK CODES**

773302

MATERIAL SAFETY DATA SHEET

McCormick and Company, Inc

773302 - RED FOOD COLOR DC 2.5%

PAGE : 2 of 4
DATE PRINTED : 11/09/2006

EYE CONTACT : In the event of contact with eyes, irrigate with water for at least 15 minutes; obtain medical advice immediately.
SKIN CONTACT : Remove contaminated clothes. Wash affected area with water. If irritation persists, obtain medical advice.
INHALATION : Remove to fresh air and seek medical attention if necessary.
INGESTION : In the event of accidental ingestion, rinse mouth with water. Give up to one tumbler (half pint) of milk or water. Obtain medical advice immediately.

Section 5 - Fire-Fighting Measures

FLASH POINT : > 98 °C / > 210 °F
EXTINGUISHING MEDIA : Water, Foam, Carbon dioxide (CO2), Dry chemical
FIRE FIGHTING PROCEDURES : Use standard procedures and preferred extinguishing media above.
UNUSUAL FIRE AND EXPLOSION HAZARDS : None
HAZARDOUS COMBUSTION PRODUCTS (Released upon burning) : Carbon monoxide, Carbon dioxide, Smoke
SPECIAL PROTECTIVE EQUIPMENT : For fires in enclosed areas, fire fighters must use self-contained breathing apparatus.

Section 6 - Accidental Release Measures

LAND SPILL : Absorb spill with inert material (e.g., cloth, sand, sawdust) and then place in suitable containers for recycling or disposal. Consult an expert on disposal of recovered material and ensure conformity to local, state, and federal disposal regulations.
WATER SPILL : Prevent additional discharge of material, if possible to do so without hazard. Advise authorities if floating material enters a watercourse or sewer. If possible, try to contain floating material and skim from surface. Consult an expert on disposal of recovered material and ensure conformity to local, state, and federal disposal regulations.
PERSONAL PRECAUTIONS : Wear appropriate personal protective equipment when cleaning up spills. Refer to Section 8.

Section 7 - Handling and Storage

HANDLING : Keep product away from heat and open flame. Keep container closed when not in use. See Section 8 for additional personal protection advice when handling this product.
STORAGE : Store in a cool, dry area with adequate ventilation.
EMPTY CONTAINER WARNING : Empty containers may retain residue (including vapors) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with government regulations.

Section 8 - Exposure Controls/Personal Protection

RELATED PACK CODES
773302

MATERIAL SAFETY DATA SHEET

McCormick and Company, Inc

773302 - RED FOOD COLOR DC 2.5%

PAGE : 3 of 4
DATE PRINTED : 11/09/2006

ENGINEERING CONTROLS : Ventilation should be provided to control worker exposures and prevent health risk.

RESPIRATORY PROTECTION : Respiratory protection recommended. Whenever workplace conditions warrant a respirator's use, seek professional guidance prior to respirator selection and follow OSHA respirator regulations (29 CFR 1910.134).

EYE PROTECTION : Safety glasses recommended.

SKIN PROTECTION : Where contact is likely, wear protective gloves or clothing.

OTHER PROTECTION : None required.

EXPOSURE GUIDELINES :

Component	OSHA PEL	ACGIH TLV	ACGIH STEL	Supplier
PROPYLENE GLYCOL	None	None	None	None

GENERAL HYGIENE CONSIDERATIONS : Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9 - Physical and Chemical Properties

APPEARANCE : Dark red liquid
ODOR : Odorless
FLASH POINT : > 98 °C / > 210 °F
DENSITY : 8.57 LB/GAL
SOLUBILITY IN WATER : Soluble

Section 10 - Stability and Reactivity

STABILITY : Presents no significant reactivity hazard.
INCOMPATIBILITY (MATERIALS TO AVOID) : Avoid strong oxidizing agents.
POSSIBILITY OF HAZARDOUS REACTIONS : Will not occur.
HAZARDOUS DECOMPOSITION PRODUCTS : Product does not undergo explosive decomposition.
CONDITIONS TO AVOID : Extreme heat and high energy sources of ignition.

Section 11 - Toxicological Information

ACUTE EYE EFFECTS : Not established.
ACUTE DERMAL EFFECTS : Not established.
ACUTE INHALATION EFFECTS : Not established.
ACUTE ORAL EFFECTS : Not established.

Section 12 - Ecological Information

No specific ecological data are available for this product. Please refer to Section 6 for information regarding accidental releases and Section 15 for regulatory reporting information.

RELATED PACK CODES
773302

MATERIAL SAFETY DATA SHEET

McCormick and Company, Inc

773302 - RED FOOD COLOR DC 2.5%

PAGE : 4 of 4
DATE PRINTED : 11/09/2006

Section 13 - Disposal Considerations

Incineration or sanitary landfill in accordance with local, state, and federal regulations.

Section 14 - Transport Information

DEPARTMENT OF TRANSPORTATION (DOT) :
Not Regulated. Consult your transportation compliance group for possible classifications pertaining to other modes of transport.

Section 15 - Regulatory Information

All ingredients contained in this product are approved for use in a regulation of the Food and Drug Administration or on the FEMA GRAS List.

Section 16 - Other Information

PREPARED BY : McCormick and Company, Inc
REVISION DATE : 11/09/2006 **VERSION :** 1

The information contained in this MSDS is based on data available to us at this time. Although reasonable care has been taken in the preparation of this MSDS, no warranty of merchantability, fitness for any particular purpose, or any other warranty is expressed or is to be implied regarding the accuracy or completeness of this information, the results to be obtained from the use of this information or the product, the safety of this product or the hazards related to its use.

MATERIAL SAFETY DATA SHEET**McCormick and Company, Inc**

771049 - GREEN FOOD COLOR DC2.5%

PAGE : 1 of 4
DATE PRINTED : 11/09/2006**Section 1 - Product and Company Information****PRODUCT NAME :** GREEN FOOD COLOR DC2.5%
FORMULA # : 771049**SUPPLIER :** McCormick and Company, Inc
18 Loveton Circle
Sparks, Maryland 21152
(410) 771-7500 8:30AM - 5:00PM EST**CHEMTREC - 24 HOUR EMERGENCY :** 800-424-9300**Section 2 - Hazards Identification****EMERGENCY OVERVIEW****APPEARANCE:** Dark green liquid**ODOR :** Odorless**NFPA HAZARD CLASSIFICATIONS :** Health : 1 Flammability : 1 Reactivity : 0**POTENTIAL HEALTH EFFECTS**

All ingredients contained in this product are approved for use in a regulation of the Food and Drug Administration or on the FEMA GRAS List. Based on health hazard determination of ingredients contained at a concentration of one percent or greater, this mixture may exhibit the following health hazards:

ACUTE EFFECTS**Inhalation:** Inhalation may cause respiratory irritation.**Eye:** May be irritating to eyes.**Skin:** May be irritating to skin.**Ingestion:** The ingestion of "large amounts" has been reported to cause poisoning.**PRIMARY TARGET ORGANS:** No known effect.**CHRONIC EFFECTS:** Similar effects have not been reported in humans. Repeated excessive ingestion may cause central nervous system effects.**Section 3 - Composition/Information on Ingredients**

With the exception of the items listed below, the identity of individual components of this mixture is proprietary information and is considered to be a trade secret.

PRINCIPAL HAZARDOUS COMPONENT(S)	CAS NUMBER
PROPYLENE GLYCOL FD&C YELLOW #5 FD&C BLUE #1	57-55-6

Section 4 - First Aid Measures**RELATED PACK CODES**

771049

MATERIAL SAFETY DATA SHEET

McCormick and Company, Inc

771049 - GREEN FOOD COLOR DC2.5%

PAGE : 2 of 4
DATE PRINTED : 11/09/2006

EYE CONTACT : In the event of contact with eyes, irrigate with water for at least 15 minutes; obtain medical advice immediately.
SKIN CONTACT : Remove contaminated clothes. Wash affected area with water. If irritation persists, obtain medical advice.
INHALATION : Remove to fresh air and seek medical attention if necessary.
INGESTION : In the event of accidental ingestion, rinse mouth with water. Give up to one tumbler (half pint) of milk or water. Obtain medical advice immediately.

Section 5 - Fire-Fighting Measures

FLASH POINT : > 98 °C / > 210 °F
EXTINGUISHING MEDIA : Water, Foam, Carbon dioxide (CO2), Dry chemical
FIRE FIGHTING PROCEDURES : Use standard procedures and preferred extinguishing media above.
UNUSUAL FIRE AND EXPLOSION HAZARDS : None
HAZARDOUS COMBUSTION PRODUCTS (Released upon burning) : Carbon monoxide, Carbon dioxide, Smoke
SPECIAL PROTECTIVE EQUIPMENT : For fires in enclosed areas, fire fighters must use self-contained breathing apparatus.

Section 6 - Accidental Release Measures

LAND SPILL : Absorb spill with inert material (e.g., cloth, sand, sawdust) and then place in suitable containers for recycling or disposal. Consult an expert on disposal of recovered material and ensure conformity to local, state, and federal disposal regulations.
WATER SPILL : Prevent additional discharge of material, if possible to do so without hazard. Advise authorities if floating material enters a watercourse or sewer. If possible, try to contain floating material and skim from surface. Consult an expert on disposal of recovered material and ensure conformity to local, state, and federal disposal regulations.
PERSONAL PRECAUTIONS : Wear appropriate personal protective equipment when cleaning up spills. Refer to Section 8.

Section 7 - Handling and Storage

HANDLING : Keep product away from heat and open flame. Keep container closed when not in use. See Section 8 for additional personal protection advice when handling this product.
STORAGE : Store in a cool, dry area with adequate ventilation.
EMPTY CONTAINER WARNING : Empty containers may retain residue (including vapors) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with government regulations.

Section 8 - Exposure Controls/Personal Protection

RELATED PACK CODES
771049

MATERIAL SAFETY DATA SHEET

McCormick and Company, Inc

771049 - GREEN FOOD COLOR DC2.5%

PAGE : 3 of 4
DATE PRINTED : 11/09/2006

ENGINEERING CONTROLS : Ventilation should be provided to control worker exposures and prevent health risk.

RESPIRATORY PROTECTION : Respiratory protection recommended. Whenever workplace conditions warrant a respirator's use, seek professional guidance prior to respirator selection and follow OSHA respirator regulations (29 CFR 1910.134).

EYE PROTECTION : Safety glasses recommended.

SKIN PROTECTION : Where contact is likely, wear protective gloves or clothing.

OTHER PROTECTION : None required.

EXPOSURE GUIDELINES :

Component	OSHA PEL	ACGIH TLV	ACGIH STEL	Supplier
PROPYLENE GLYCOL	None	None	None	None

GENERAL HYGIENE CONSIDERATIONS : Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9 - Physical and Chemical Properties

APPEARANCE : Dark green liquid

ODOR : Odorless

FLASH POINT : > 98 °C / > 210 °F

DENSITY : 8.57 LB/GAL

SOLUBILITY IN WATER : Soluble

Section 10 - Stability and Reactivity

STABILITY : Presents no significant reactivity hazard.

INCOMPATIBILITY (MATERIALS TO AVOID) : Avoid strong oxidizing agents.

POSSIBILITY OF HAZARDOUS REACTIONS : Will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS : Product does not undergo explosive decomposition.

CONDITIONS TO AVOID : Extreme heat and high energy sources of ignition.

Section 11 - Toxicological Information

ACUTE EYE EFFECTS : Not established.

ACUTE DERMAL EFFECTS : Not established.

ACUTE INHALATION EFFECTS : Not established.

ACUTE ORAL EFFECTS : Not established.

Section 12 - Ecological Information

RELATED PACK CODES
771049

MATERIAL SAFETY DATA SHEET

McCormick and Company, Inc

771049 - GREEN FOOD COLOR DC2.5%

PAGE : 4 of 4
DATE PRINTED : 11/09/2006

No specific ecological data are available for this product. Please refer to Section 6 for information regarding accidental releases and Section 15 for regulatory reporting information.

Section 13 - Disposal Considerations

Incineration or sanitary landfill in accordance with local, state, and federal regulations.

Section 14 - Transport Information

DEPARTMENT OF TRANSPORTATION (DOT) :

Not Regulated. Consult your transportation compliance group for possible classifications pertaining to other modes of transport.

Section 15 - Regulatory Information

All ingredients contained in this product are approved for use in a regulation of the Food and Drug Administration or on the FEMA GRAS List.

Section 16 - Other Information

PREPARED BY : McCormick and Company, Inc

REVISION DATE : 11/09/2006

VERSION : 1

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RELATED PACK CODES

771049

Section 1 — Chemical Product and Company Identification

Gelatin

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Gelatin

CAS#: 9000-70-8

Section 3 — Hazards Identification

Light amber granules. Faint, sour, animal-like odor.

Substance not considered hazardous. However, not all health aspects of this substance have been thoroughly investigated.

FLINN AT-A-GLANCE

Health-0
Flammability-0
Reactivity-0
Exposure-0
Storage-0

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash continuously with fresh water for 15 minutes.

Internal: Give large quantities of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Non flammable, non combustible solid.

NFPA CODE

None Established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area. Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Organic #2. Store with alcohols, glycols, amines and amides.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron.

Section 9 — Physical and Chemical Properties

Granular, light amber color.
Faint, sour, animal-like odor.
Solubility: Soluble in water. Insoluble in most organic solvents.

Section 10 — Stability and Reactivity

Shelf life: Indefinite.

Section 11 — Toxicological Information

Acute effects: N.A.	ORL-RAT LD50: N.A.
Chronic effects: N.A.	IHL-RAT LC50: N.A.
Target organs: N.A.	SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Shelf Life:

Section 13 — Disposal Considerations

Please consult with state and local regulations.
Flinn Suggested Disposal Method #26a is one option.

Section 14 — Transport Information

Shipping Name: Not regulated
Hazard Class: N/A
UN Number: N/A

N/A = Not applicable

Section 15 — Regulatory Information

Not listed.

Section 16 — Other Information

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals. This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

FLINN SCIENTIFIC INC.

"Your Safer Source for Science Supplies"

Improve Safety--Use Flinn Chemicals

flinn@flinnsci.com www.flinnsci.com
P.O. Box 219 Batavia IL 60510
(800) 452-1261 Fax (866) 452-1436

Section 1 — Chemical Product and Company Identification

Glycerin

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Glycerin

Synonym: glycerol

CAS#: 56-81-5

Section 3 — Hazards Identification

Clear, colorless, odorless, viscous liquid.

May cause slight eye irritation. Avoid all body tissue contact, possible allergen.

Combustible liquid.

FLINN AT-A-GLANCE

Health-0

Flammability-1

Reactivity-2

Exposure-1

Storage-0

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash continuously with fresh water for 15 minutes.

Internal: Induce vomiting. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Class IIIB combustible liquid.

Flash point: 390 F Autoignition Temperature: 698 F

When heated to decomposition, it emits toxic fumes of acrolein.

Fire Fighting Instructions: Use triclass, dry chemical fire extinguisher. Firefighters should wear PPE and SCBA with full facepiece operated in positive pressure mode.

NFPA CODE

H-1

F-1

R-0

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area and ventilate area. Contain spill with sand or absorbent material; deposit in sealed bag or container. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Organic #2. Store with alcohols, glycols, amines and amides.

Store in a cool dry place.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron.

Use ventilation to keep airborne concentrations below exposure limits. Always wear a NIOSH-approved respirator with proper cartridges or a positive pressure, air-supplied respirator when handling this material in emergency situations (spill or fire).

Exposure guidelines: TWA 10 mg/m³ (ACGIH)

Section 9 — Physical and Chemical Properties

Clear, colorless, odorless, viscous liquid.
Solubility: Soluble in water and alcohol.
Formula: C₃H₅(OH)₃
Formula Weight: 92.10

Specific Gravity: 1.23-1.26
Melting Point: 18 C
Boiling Point: 290 C

Section 10 — Stability and Reactivity

Avoid contact with strong oxidizing agents such as chromium trioxide, potassium chlorate, or potassium permanganate may produce an explosion.
Shelf Life: Indefinite.

Section 11 — Toxicological Information

Acute effects: Eye irritant, nausea, headache, vomiting
Chronic effects: N.A.
Target organs: N.A.

ORL-RAT LD50: 12600 mg/kg
IHL-RAT LC50: N.A.
SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.
Flinn Suggested Disposal Method #26b is one option.

Section 14 — Transport Information

Shipping Name: Not regulated
Hazard Class: N/A
UN Number: N/A

N/A = Not applicable

Section 15 — Regulatory Information

TSCA-listed, EINECS-listed (200-289-5).

Section 16 — Other Information

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals. This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

FLINN SCIENTIFIC INC.

"Your Safer Source for Science Supplies"

Improve Safety--Use Flinn Chemicals

flinn@flinnsci.com www.flinnsci.com
P.O. Box 219 Batavia IL 60510
(800) 452-1261 Fax (866) 452-1436



MATERIAL SAFETY DATA SHEET (MSDS)

**FOR PRODUCT INFORMATION OR
IN AN EMERGENCY CALL:**

McCormick & Co., Inc.
10901 Gilroy Road
Hunt Valley, MD 21031
(410) 771-5000

NFPA HAZARD CLASSIFICATIONS

1 - Health
1 - Flammability
0 - Reactivity

I. IDENTIFICATION:

PRODUCT NAME: Turmeric, Whole or Ground **FORMULA:** NA
PRODUCT TYPE: Spice

II. HEALTH HAZARD INFORMATION

With the exception of the items listed below, the identity of individual components of this mixture is proprietary information and is regarded to be a trade secret.

PRINCIPAL HAZARDOUS COMPONENTS: Turmeric Oil

TLV: N/E

All ingredients contained in this product are approved for us in a regulation of the FDA or on a Current F.E.M.A. List. Based on health hazard determination of contained ingredients at a concentration of one percent or greater, this mixture may exhibit the following health hazards:

This product has not been classified as a health hazard. It has not been listed as a carcinogen by NTP (National Toxicology Program) or IARC (International Agency for Research on Cancer). It is not regulated as a carcinogen by OSHA (Occupational Safety and Health Administration).

III. PHYSICAL DATA

Specific Gravity: N/A **Vapor Pressure (at 20° C in mm Hg):** N/A

Solubility in Water: Insoluble **Vapor Density (Air=1):** N/A

Appearance and Odor: Brownish-orange spice with earthy aroma.

IV. FIRE AND EXPLOSION HAZARD INFORMATION

Flash Point: N/A

DOT Classification: Flammable Liquid Combustible Liquid
 Irritating Material Corrosive Material
 None

Extinguishing Media: Water Foam CO₂ Dry Chemical

Unusual Fire and Explosion Hazards: NONE

Hazardous Combustion Products: NONE KNOWN

Firefighting Procedures: Use standard procedures and preferred extinguishing media above.

V. REACTIVITY INFORMATION

STABILITY: Presents no significant reactivity hazard. Normally stable even at elevated temperature and pressures. Not pyrophoric or reactive with water. Does not undergo explosive decomposition, is shock stable, and is not an oxygen donor. Will not form explosive mixtures with other organic materials. Will not undergo hazardous exothermic polymerization.

INCOMPATIBILITY (MATERIALS TO AVOID): Avoid strong oxidizing agents.

VI. EMERGENCY AND FIRST AID PROCEDURES

Eye (Contact): In the event of contact with the eyes, irrigate with water for at least fifteen minutes; obtain medical advice if irritation persists.

Skin (Contact): Not a primary irritant for normal skin.

Ingestion (Swallowing): N/A

Inhalation: Remove to fresh air. If irritation persists, call physician.

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Small spills can be wiped up with cloth or paper; standard absorbents can be used (sand, sawdust, vermiculite, etc.).

WASTE DISPOSAL METHOD: Dispose in accordance with local, state, and federal regulations.

VIII. SPECIAL PROTECTION INFORMATION

Respiratory Protection: Respiratory protection recommended. Dust mask recommended.

Ventilation: Adequate ventilation recommended.

Protective Gloves: Recommended.

Eye Protection: Safety glasses recommended.

Other Protective Equipment: None required.

IX. SPECIAL PRECAUTIONS

PRECAUTIONS (HANDLING AND STORING): Keep away from heat and flame. Keep container closed when not in use. Use with adequate ventilation.

PREPARED BY: McCormick & Co., Inc.

DATE: October 16, 2006

The opinions expressed herein are those of qualified experts within McCormick & Co., Inc.. We believe that the information contained herein is current as of the date of this MSDS. Since the use of this information and the conditions of the use of the product are not within the control of McCormick & Co., Inc., it is the user's obligation to determine conditions of safe use of the product.

Abbreviations Used: N/D-Not Determined N/E-None Established N/A-Not Applicable

Section 1 — Chemical Product and Company Identification

Iodine

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Iodine

CAS#: 7553-56-2

Section 3 — Hazards Identification

Gray-black flakes, metallic luster, characteristic odor.
Highly toxic by ingestion and inhalation.
Irritating and corrosive to skin. Avoid all body contact.

FLINN AT-A-GLANCE

Health-3
Flammability-0
Reactivity-2
Exposure-3
Storage-1

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash continuously with fresh water for 15 minutes.

Internal: Rinse out mouth, give 1 to 2 cups of water or milk, induce vomiting. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Non-flammable, noncombustible solid.

When heated to decomposition, emits toxic fumes of iodide and various iodine compounds.

Fire Fighting Instructions: Use triclass, dry chemical fire extinguisher. Firefighters should wear PPE and SCBA with full facepiece operated in positive pressure mode.

NFPA CODE

None Established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area. Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates. Store in a cool dry place. Store in a Flinn Chem-Saf bag; the substance sublimates. Frequently oxidizes metal shelves or metal containers in proximity to the iodine. Use and dispense in a hood.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron. Use ventilation to keep airborne concentrations below exposure limits. Always wear a NIOSH-approved respirator with proper cartridges or a positive pressure, air-supplied respirator when handling this material in emergency situations (spill or fire).

Exposure guidelines: ceiling 0.1 ppm (OSHA)

Section 9 — Physical and Chemical Properties

Gray-black flakes, metallic luster, characteristic odor.
Solubility: Soluble in alcohol and other organic solvents;
not in water.
Formula: I₂
Formula Weight: 253.80

Boiling Point: 185.24 C
Specific gravity: 4.98
Melting Point: 113.5 C

Section 10 — Stability and Reactivity

Avoid contact with magnesium, zinc, ammonia, aluminum, corrodes steel. Reacts violently with acetaldehyde.
Shelf Life: Fair; the substance sublimates. Frequently oxidizes metal shelves or metal containers in proximity to the iodine.

Section 11 — Toxicological Information

Acute effects: Highly toxic, harmful vapor, corrosive, severe lachrymatol, sensitizer, stomach pains, vomiting.
Chronic effects: Dermatitis
Target organs: Thyroid

ORL-HUM LD50: 2-4 gm for an adult
IHL-RAT LC50: N.A.
SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.
Flinn Suggested Disposal Method #12a is one option.

Section 14 — Transport Information

Shipping Name: Toxic solid, inorganic, n.o.s.
Hazard Class: 6.1 Keep away from food
UN Number: UN3288

N/A = Not applicable

Section 15 — Regulatory Information

TSCA-listed, EINECS-listed (231-442-4), RCRA code D002.

Section 16 — Other Information

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals. This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

FLINN SCIENTIFIC INC.

"Your Safer Source for Science Supplies"

Flinn Is No. 1 in Safety

flinn@flinnsci.com www.flinnsci.com
P.O. Box 219 Batavia IL 60510
(800) 452-1261 Fax (866) 452-1436

Material Safety Data Sheet

Science Stuff, Inc.
1104 Newport Ave
Austin, TX 78753

Phone (512) 837-6020
Chemtrec 800-424-9300
24 Hour Emergency Assistance

Section 1 Identification					
Product Number:	C1923	Health:	2		
Product Name:	Starch Test Iodine Solution	Flammability:	0		
Trade/Chemical Synonyms:		Reactivity:	0		
Formula:	N/A	Hazard Rating:	Least Slight Moderate High Extreme		
RTECS:	None		0	1	2
C.A.S	See Below		3	4	
			NA = Not Applicable NE = Not Established		
Section 2 Component Mixture					
Sara 313	Component	CAS Number	%	Dim	Exposure Limits:
<input type="checkbox"/>	Water, Deionized ASTM Type II	CAS# 7732-18-5	Balance	V/V	None Established
<input type="checkbox"/>	Iodine	CAS# 7553-56-2	1.2%	W/V	OSHA PEL (C) 0.1 ppm (1 mg/mf)
<input type="checkbox"/>	Potassium Iodide	CAS# 7681-11-0	2%	W/V	TXDS: orl-hmn LDLo: 1862 mg/Kg
Section 3 Hazard Identification (Also see section 11)					
Harmful if swallowed. May cause irritation. Avoid breathing vapors, or dusts. Use with adequate ventilation. Avoid contact with eyes, skin, and clothes. Wash thoroughly after handling. Keep container closed.					
Section 4 First Aid Measures					
Harmful if swallowed. May cause irritation. Avoid breathing vapors, or dusts. Use with adequate ventilation. Avoid contact with eyes, skin, and clothes. Wash thoroughly after handling. Keep container closed.					
FIRST AID: SKIN: Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention					
EYES: Wash eyes with plenty of water for at least 15 minutes, lifting lids occasionally. Seek Medical Aid. INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen					
INGESTION: Give several glasses of milk or water. Vomiting may occur spontaneously, but DO NOT INDUCE! Never give anything by mouth to an unconscious person.					
Section 5 Fire Fighting Measures					
Fire Extinguisher Type:	Any means suitable for extinguishing surrounding fire				
Fire/Explosion Hazards:	Not combustible, however, contact with reducing agents or combustibles may cause ignition.				
Fire Fighting Procedure:	Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and clothing.				
Section 6 Accidental Release Measures					
Neutralize iodine by adding sodium thiosulfate solution until iodine color is gone. Absorb remainder with absorbent material.					
Section 7 Handling and Storage					
Store in a cool dry place. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling					
Section 8 Exposure Controls & Personal Protection					
Respiratory Protection: None required					
Mechanical:		Hand Protection:		Gloves to prevent skin exposure as latex or vinyl	
<input type="checkbox"/>		<input type="checkbox"/>			
Ventilation:		Local Exhaust:		Eye Protection:	
<input type="checkbox"/>		<input checked="" type="checkbox"/>		Splash Goggles	
Other Protective Equipment: Wear appropriate clothing to prevent skin exposure					
Section 9 Physical and Chemical Properties					
Melting Point:	-0°C	Specific Gravity	>1		
Boiling Point:	-100°C	Percent Volatile by Volume:	>95		
Vapor Pressure:	Information not available	Evaporation Rate:	Information not available		
Vapor Density:	Information not available	Evaporation Standard:	Information not available		
Solubility in Water:	Soluble	Auto ignition Temperature:	Not applicable		
Appearance and Odor:	Brown liquid with iodine odor	Lower Flamm. Limit in Air:	Not applicable		
Flash Point:	Information not available	Upper Flamm. Limit in Air:	Not applicable		
Section 10 Stability and Reactivity Information					
Stability: Stable Conditions to Avoid: Avoid exposure to light.					
Materials to Avoid: Active metals, ammonia, acetylene, acetaldehyde					
Hazardous Decomposition Products: Iodine fumes					
Hazardous Polymerization: Will Not Occur					
Condition to Avoid: None known					
Section 11 Additional Information					
Conditions aggravated/target organs: Persons with pre-existing skin, eye, thyroid, and respiratory disorders, as well as persons with iodine allergies, will be more susceptible. May cause skin and eye irritation. Conditions aggravated: Thyroid disorders, iodine allergies.					
DOT Classification: Not Regulated					
DOT regulations may change from time to time. Please consult the most recent version of the relevant regulations.					
Revision No: 0.1 Date Entered: 9/1/2005 Approved by: WPF					

The information contained herein is believed to be accurate and is offered in good faith for the user's consideration and investigation. No warranty is expressed or implied regarding the completeness or accuracy of this information, whether originating from Science Stuff, Inc. or from an alternate source. Users of this material should satisfy themselves by independent investigation of current scientific and medical information that this material may be safely handled.

Section 1 — Chemical Product and Company Identification

Iron

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Iron

CAS#: 7439-89-6

Section 3 — Hazards Identification

Silver-white, malleable metal. Forms: filings, nails, powder, and sheets. Odorless.
Substance not considered hazardous. However, not all health aspects of this substance have been thoroughly investigated.
Flammable solid in dust form.

FLINN AT-A-GLANCE

Health-0
Flammability-0
Reactivity-0
Exposure-0
Storage-0

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.
Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.
Eye: Immediately flush with fresh water for 15 minutes.
External: Wash continuously with fresh water for 15 minutes.
Internal: Give large quantities of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Finely divided iron can be flammable.

Fire Fighting Instructions: Use triclass, dry chemical fire extinguisher. Firefighters should wear PPE and SCBA with full facepiece operated in positive pressure mode.

NFPA CODE

None Established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area. Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Inorganic #1. Store with metals and metal hydrides.
Moisture sensitive material.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron.

Section 9 — Physical and Chemical Properties

Silver-white, malleable metal. Odorless.

Solubility: Insoluble in water. Soluble in sulfuric, hydrochloric and nitric acids.

Formula: Fe

Formula Weight: 55.85

Specific Gravity: 7.87

Melting Point: 1536 C

Section 10 — Stability and Reactivity

Avoid contact with acids, moisture, strong oxidizing agents, halogens, phosphorus and oxygen.

Shelf Life: Indefinite.

Section 11 — Toxicological Information

Acute effects: Harmful dust

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT LD50: 30 gm/kg

IHL-RAT LC50: N.A.

SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.

Flinn Suggested Disposal Method #26a is one option.

Section 14 — Transport Information

Shipping Name: Not regulated

Hazard Class: N/A

UN Number: N/A

N/A = Not applicable

Section 15 — Regulatory Information

TSCA-listed, EINECS-listed (231-096-4), RCRA code D001.

Section 16 — Other Information

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals. This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

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"Your Safer Source for Science Supplies"

Flinn Is No. 1 in Safety

flinn@flinnsci.com www.flinnsci.com
P.O. Box 219 Batavia IL 60510
(800) 452-1261 Fax (866) 452-1436

MSDS Material Safety Data Sheet		24 Hour Emergency Telephone: 908-859-2151 CHEMTREC: 1-800-424-9300
From: Mallinckrodt Baker, Inc. 222 Red School Lane Phillipsburg, NJ 08865		National Response In Canada CANUTEC: 613-996-6666
Mallinckrodt CHEMICALS		Outside U.S. and Canada Chemtrec: 703-527-3887
J.T. Baker		NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.
All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.		

ISOPROPYL ALCOHOL (90 - 100%)

1. Product Identification

Synonyms: 2-Propanol; sec-propyl alcohol; isopropanol; sec-propanol; dimethylcarbinol
CAS No.: 67-63-0
Molecular Weight: 60.10
Chemical Formula: (CH₃)₂CHOH
Product Codes:
 J.T. Baker: 0562, 5082, 9037, 9080, U298
 Mallinckrodt: 0562, 3027, 3031, 3032, 3035, 3037, 3043, 4359, 6569, H604, H982, V555, V566, V681

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Isopropyl Alcohol	67-63-0	90 - 100%	Yes
Water	7732-18-5	0 - 10%	No

3. Hazards Identification

Emergency Overview

WARNING! FLAMMABLE LIQUID AND VAPOR. HARMFUL IF SWALLOWED OR INHALED. CAUSES IRRITATION TO EYES AND RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM. MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE IRRITATION TO SKIN.

SAF-T-DATA^(tm) Ratings (Provided here for your convenience)

Health Rating: 2 - Moderate
 Flammability Rating: 3 - Severe (Flammable)
 Reactivity Rating: 2 - Moderate
 Contact Rating: 3 - Severe
 Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES; CLASS B EXTINGUISHER
 Storage Color Code: Red (Flammable)

Potential Health Effects

Inhalation:

Inhalation of vapors irritates the respiratory tract. Exposure to high concentrations has a narcotic effect, producing symptoms of dizziness, drowsiness, headache, staggering, unconsciousness and possibly death.

Ingestion:

Can cause drowsiness, unconsciousness, and death. Gastrointestinal pain, cramps, nausea, vomiting, and diarrhea may also result. The single lethal dose for a human adult = about 250 mls (8 ounces).

Skin Contact:

May cause irritation with redness and pain. May be absorbed through the skin with possible systemic effects.

Eye Contact:

Vapors cause eye irritation. Splashes cause severe irritation, possible corneal burns and eye damage.

Chronic Exposure:

Chronic exposure may cause skin effects.

Aggravation of Pre-existing Conditions:

Persons with pre-existing skin disorders or impaired liver, kidney, or pulmonary function may be more susceptible to the effects of this agent.

4. First Aid Measures

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion:

Give large amounts of water to drink. Never give anything by mouth to an unconscious person. Get medical attention.

Skin Contact:

Immediately flush skin with plenty of water for at least 15 minutes. Call a physician if irritation develops.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. Fire Fighting Measures

Fire:

Flash point: 12C (54F) CC

Autoignition temperature: 399C (750F)

Flammable limits in air % by volume:

lfl: 2.0; uel: 12.7

Listed fire data is for Pure Isopropyl Alcohol.

Explosion:

Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Contact with strong oxidizers may cause fire or explosion. Vapors can flow along surfaces to distant ignition source and flash back. Sensitive to static discharge.

Fire Extinguishing Media:

Water spray, dry chemical, alcohol foam, or carbon dioxide. Water spray may be used to keep fire exposed containers cool, dilute spills to nonflammable mixtures, protect personnel attempting to stop leak and disperse vapors.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! If a leak or spill has not ignited, use water spray to disperse the vapors, to protect personnel attempting to stop leak, and to flush spills away from exposures.

J. T. Baker SOLUSORB® solvent adsorbent is recommended for spills of this product.

7. Handling and Storage

Protect against physical damage. Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be acute. Outside or detached storage is preferred. Separate from incompatibles. Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be No Smoking areas. Use non-sparking type tools and equipment, including explosion proof ventilation. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product. Small quantities of peroxides can form on prolonged storage. Exposure to light and/or air significantly increases the rate of peroxide formation. If evaporated to a residue, the mixture of peroxides and isopropanol may explode when exposed to heat or shock.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

For Isopropyl Alcohol (2-Propanol):

-OSHA Permissible Exposure Limit (PEL): 400 ppm (TWA)

-ACGIH Threshold Limit Value (TLV):

200 ppm (TWA), 400 ppm (STEL), A4 - not classifiable as a human carcinogen.

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

If the exposure limit is exceeded, a full facepiece respirator with organic vapor cartridge may be worn up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. WARNING: Air purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Neoprene and nitrile rubber are recommended materials.

Eye Protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:

Clear, colorless liquid.

Odor:

Rubbing alcohol.

Solubility:

Miscible in water.

Specific Gravity:

0.79 @ 20C/4C

pH:

No information found.

% Volatiles by volume @ 21C (70F):

100

Boiling Point:

82C (180F)

Melting Point:

-89C (-128F)

Vapor Density (Air=1):

2.1

Vapor Pressure (mm Hg):

44 @ 25C (77F)
Evaporation Rate (BuAc=1):
 2.83

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage. Heat and sunlight can contribute to instability.

Hazardous Decomposition Products:

Carbon dioxide and carbon monoxide may form when heated to decomposition.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Heat, flame, strong oxidizers, acetaldehyde, acids, chlorine, ethylene oxide, hydrogen-palladium combination, hydrogen peroxide-sulfuric acid combination, potassium tert-butoxide, hypochlorous acid, isocyanates, nitroform, phosgene, aluminum, oleum and perchloric acid.

Conditions to Avoid:

Heat, flames, ignition sources and incompatibles.

11. Toxicological Information

Oral rat LD50: 5045 mg/kg; skin rabbit LD50: 12.8 gm/kg; inhalation rat LC50: 16,000 ppm/8-hour; investigated as a tumorigen, mutagen, reproductive effector.

Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Isopropyl Alcohol (67-63-0)	No	No	3
Water (7732-18-5)	No	No	None

12. Ecological Information

Environmental Fate:

When released into the soil, this material is expected to quickly evaporate. When released into the soil, this material may leach into groundwater. When released into the soil, this material may biodegrade to a moderate extent. When released into water, this material is expected to quickly evaporate. When released into the water, this material is expected to have a half-life between 1 and 10 days. When released into water, this material may biodegrade to a moderate extent. This material is not expected to significantly bioaccumulate. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to have a half-life between 1 and 10 days. When released into the air, this material may be removed from the atmosphere to a moderate extent by wet deposition.

Environmental Toxicity:

The LC50/96-hour values for fish are over 100 mg/l. This material is not expected to be toxic to aquatic life.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved incinerator or disposed in a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name: ISOPROPANOL

Hazard Class: 3

UN/NA: UN1219

Packing Group: II

Information reported for product/size: 200L

International (Water, I.M.O.)

Proper Shipping Name: ISOPROPANOL

Hazard Class: 3

UN/NA: UN1219

Packing Group: II

Information reported for product/size: 200L

15. Regulatory Information

Ingredient	-----\Chemical Inventory Status - Part 1\-----			
	TSCA	EC	Japan	Australia
Isopropyl Alcohol (67-63-0)	Yes	Yes	Yes	Yes
Water (7732-18-5)	Yes	Yes	Yes	Yes

Ingredient	-----\Chemical Inventory Status - Part 2\-----			
	Korea	DSL	NDSL	Phil.
Isopropyl Alcohol (67-63-0)	Yes	Yes	No	Yes
Water (7732-18-5)	Yes	Yes	No	Yes

ISOPROPYL ALCOHOL (90 - 100%)

-----\Federal, State & International Regulations - Part 1\-----				
Ingredient	-SARA 302-		-----SARA 313-----	
	RQ	TPQ	List	Chemical Catg.
Isopropyl Alcohol (67-63-0)	No	No	Yes	No
Water (7732-18-5)	No	No	No	No

-----\Federal, State & International Regulations - Part 2\-----			
Ingredient	CERCLA	-RCRA-	-TSCA-
		261.33	8(d)
Isopropyl Alcohol (67-63-0)	No	No	No
Water (7732-18-5)	No	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: Yes
 SARA 311/312: Acute: Yes Chronic: Yes Fire: Yes Pressure: No
 Reactivity: No (Mixture / Liquid)

Australian Hazchem Code: 2[S]2

Poison Schedule: None allocated.

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: 1 Flammability: 3 Reactivity: 0

Label Hazard Warning:

WARNING! FLAMMABLE LIQUID AND VAPOR. HARMFUL IF SWALLOWED OR INHALED. CAUSES IRRITATION TO EYES AND RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM. MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE IRRITATION TO SKIN.

Label Precautions:

Keep away from heat, sparks and flame.

Keep container closed.

Use only with adequate ventilation.

Wash thoroughly after handling.

Avoid breathing vapor or mist.

Avoid contact with eyes, skin and clothing.

Label First Aid:

If swallowed, give large amounts of water to drink. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. In all cases, get medical attention.

Product Use:

Laboratory Reagent.

Revision Information:

No Changes.

Disclaimer:

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Prepared by: Environmental Health & Safety

Phone Number: (314) 654-1600 (U.S.A.)



MATERIAL SAFETY DATA SHEET

MSDS #: LDL 0001
 Supersedes: LDL9901

Issue Date: 09/28/00
 Issue Date: 02/17/99

SECTION I - CHEMICAL PRODUCT		
Identity: Liquid Hand Dishwashing Detergents		
Brands:		
DAWN (All Variations)		
IVORY (All Variations)		
JOY (All Variations)		
Hazard Rating:	Health: 2	4=EXTREME
	Flammability: 1	3=HIGH
	Reactivity: 0	2= MODERATE
		1=SLIGHT
Emergency Telephone Number: 24hr P&G Operator:		
DAWN - 1-800-725-3296 (DAWN)		
IVORY 1-800-253-2753 (IVORY)		
JOY - 1-800-436-1569 (JOY)		
or call Local Poison Control Center or your physician		

SECTION II - COMPOSITION AND INGREDIENTS					
Ingredients/Chemical Name: Cleaning and sudsing agents (anionic and nonionic surfactants), dispensing aid (ethyl alcohol), water, stabilizing agents, colorant and perfume.					
Dawn and Joy Antibacterial Hand Soaps also contain the antibacterial active Triclosan.					
Dawn Hand Care product contains a protease enzyme.					
Hazardous Ingredients as defined by OSHA, 29 CFR 1910.1200.					
<u>Chemical Name</u>	<u>Common Name</u>	<u>CAS No.</u>	<u>Recommended Limits</u>	<u>Composition Range</u>	<u>LD50/LC50</u>
Ethyl alcohol	Ethanol	64-17-5	ACGIH TLV: 1880 mg/m ³	5-10%	N/A
Subtilisin	Protease	9014-01-1	NIOSH STEL 0.00006 mg/m ³	<0.01%	N/A

SECTION XII - ECOLOGICAL INFORMATION

All surfactants are readily biodegradable. These products are safe for septic tanks.

SECTION XIII - DISPOSAL CONSIDERATIONS

Waste Disposal Method: DISPOSAL IS TO BE PERFORMED IN COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS. RCRA hazardous under the classification "Ignitable." RCRA provides an exemption for household waste. Household product is safe for disposal down the drain during use or in the trash. *Industrial Setting:* Solutions of diluted detergent in the course of use, may be allowed to be flushed down sewer. First check with your local water treatment plant. Recycling is recommended for undiluted scrap product. **Hazardous waste incineration is necessary for the Ultra versions of these products if disposal is ultimately warranted.** Do not landfill.

SECTION XIV - TRANSPORT INFORMATION

Small household containers of Dawn, Joy and Ivory are not DOT regulated.

SECTION XV - ADDITIONAL REGULATORY INFORMATION

All components are listed on the US TSCA Inventory. No components are affected by Significant New Use Rules (SNURs) under TSCA §5.

No components of Dawn, Ivory or Joy are subject to California Proposition 65 labeling.

All ingredients are CEPA approved for import to Canada by Procter & Gamble only. This product has been classified with Hazard Criteria of the Canadian Control Products Regulation (CPR) and this MSDS contains all information required by the Canadian Products Regulation.

SECTION XVI - OTHER INFORMATION

*N/A. - Not Applicable

*N/K. - Not Known

The submission of this MSDS may be required by law, but this is not an assertion that the substance is hazardous when used in accordance with proper safety practices and normal handling procedures. Data supplied is for use only in connection with occupational safety and health.

The information contained herein has been compiled from sources considered by Procter & Gamble to be dependable and is accurate to the best of the Company's knowledge. The information relates to the specific material designated herein, and does not relate to the use in combination with any other material or any other process. Procter & Gamble assumed no responsibility for injury to the recipient or third persons, for any damage to any property resulting from misuse of the controlled product.

Section 1 — Chemical Product and Company Identification

Lead

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Lead

CAS#: 7439-92-1

Section 3 — Hazards Identification

Heavy, ductile, gray solid. Forms: foil, sheets, shot, strips, and wire. Odorless.

Lead as a powder or dust is toxic by ingestion or inhalation. Lead and lead compounds are possible carcinogens. Avoid ingestion and inhalation.

When heated to decomposition, emits highly toxic fumes of Pb.

Chronic exposure to inorganic lead via inhalation or ingestion can result in accumulation in and damage to the soft tissues and bones.

FLINN AT-A-GLANCE

Health-0

Flammability-0

Reactivity-0

Exposure-0

Storage-0

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash continuously with fresh water for 15 minutes.

Internal: Rinse out mouth, give 1 to 2 cups of water or milk, induce vomiting. After vomiting, give mixture of 2 Tbs. of activated charcoal mixed with one cup of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Finely divided lead dust is flammable.

When heated to decomposition, emits highly toxic fumes of Pb.

Fire Fighting Instructions: Use triclass, dry chemical fire extinguisher. Firefighters should wear PPE and SCBA with full facepiece operated in positive pressure mode.

NFPA CODE

None Established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area. Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Inorganic #1. Store with metals and metal hydrides.

Use fume hood when handling powder form.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron.

Use ventilation to keep airborne concentrations below exposure limits. Always wear a NIOSH-approved respirator with proper cartridges or a positive pressure, air-supplied respirator when handling this material in emergency situations (spill or fire).

Exposure guidelines: TWA 0.15 mg/m³ (ACGIH)

Section 9 — Physical and Chemical Properties

Heavy, ductile, gray solid.

Solubility: Soluble in dilute nitric acid. Insoluble in water.

Lead wire also contains 1% antimony (CAS #7440-36-0)

Formula: Pb

Formula Weight: 207.19

Specific Gravity: 11.35

Melting Point: 327.4 C

Section 10 — Stability and Reactivity

Avoid strong acids, ammonium nitrate, hydrogen peroxide, sodium azide, zirconium, sodium acetylide and chlorine.

Shelf Life: Indefinite.

Section 11 — Toxicological Information

Acute effects: N.A.

Chronic effects: Anemia, reproductive hazard

Target organs: Nerves, blood, kidneys, female/male reproductive system

ORL-RAT LD50: N.A.

IHL-RAT LC50: N.A.

SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.

Flinn Suggested Disposal Method #27d is one option.

Section 14 — Transport Information

Shipping Name: Not regulated

Hazard Class: N/A

UN Number: N/A

N/A = Not applicable

Section 15 — Regulatory Information

TSCA-listed, EINECS-listed (231-100-4), RCRA code D008.

Section 16 — Other Information

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals. This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

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flinn@flinnsci.com www.flinnsci.com
P.O. Box 219 Batavia IL 60510
(800) 452-1261 Fax (866) 452-1436

Meat Tenderizer, Unseasoned



A blend of salt and bromelain to tenderize meat.

Just before cooking, moisten surface of meat with water. Sprinkle tenderizer evenly over meat (1 teaspoon per pound). Do not add salt. Pierce meat with fork at 1/2-inch intervals. Cook immediately.

SALT, DEXTROSE, BROMELAIN (TENDERIZER), AND CALCIUM SILICATE (ADDED TO MAKE FREE FLOWING).

1/4 tsp. (1.1g)

3.37 ounces, UPC 5210006210; 5.75 ounces, UPC 5210006330

Calories:0 Fat:0 g Cholesterol: 0 mg Protein: 0 g Sodium: 400 mg Carbohydrates: 0 g Fiber: 0 g

From Wikipedia, the free encyclopedia

Bromelain can refer to one of two protease enzymes extracted from the plant family Bromeliaceae, or it can refer to a combination of those enzymes along with other compounds produced in an extract.

Contents

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- [5 Production](#)
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Bromelain characteristics
Effective temperature 40-60 °C
Optimal temperature 50-60 °C
Deactivation temperature approx. above 65 °C
Effective pH 4.0-8.0
Optimal pH 4.5-5.5

[edit] Extract Components

Bromelain extract is a mixture of sulfur-containing protein-digesting enzymes—called proteolytic enzymes or proteases—and several other substances in smaller quantities. The two main enzymes are:

- Stem bromelain - EC 3.4.22.32
- Fruit bromelain - EC 3.4.22.33

The other substances typically include peroxidase, acid phosphatase, protease inhibitors, and calcium.

[edit] History

The first isolation of bromelain was recorded by the Venezuelan chemist Vicente Marciano^[1] (BU1 1.Phar. 5,77) in 1891 from the fruit of pineapple. In 1892, Chittenden, assisted by Joslin and Meara, investigated the matter fully (Trans. Conn. Acad. Arts Sci. 8, 281-308), and called it 'bromelin'. Later the term 'bromelain' was introduced and originally applied to any protease from any plant member of the plant family Bromeliaceae.

Bromelain was first introduced as a therapeutic supplement in 1957. Research on bromelain apparently was first conducted in Hawaii but more recently has been conducted in countries in Asia, Europe and Latin America. Germany has recently taken a great interest in bromelain research; bromelain is currently the 13th most widely used herbal medicine in Germany.

[edit] Source

Bromelain is present in all parts of the pineapple plant (*Ananas comosus*), but the stem is the most common commercial source, presumably because it is readily available after the fruit has been harvested. Pineapples have had a long tradition as a medicinal plant among the natives of South and Central America. However, just eating pineapple will not give you a great deal of extra bromelain, because it is most highly concentrated in the stem, which is not nearly as tasty (albeit still edible).

[edit] Uses

[edit] Meat tenderizing

Along with papain, bromelain is one of the most popular substances to use for meat tenderizing.

Today, approximately 90% of meat tenderizer use is in consumer households. Bromelain is sold in a powdered form, which is combined with a marinade or directly sprinkled on the uncooked meat. The enzyme will penetrate the meat, and by a process called forking, cause the meat to be tender and palatable when cooked. If the enzyme is allowed to work for too long, the meat may become too "mushy" for many consumers' preferences.

Some prepared meat products, such as meatballs, and commercially available marinades include pineapple and/or pineapple-derived ingredients.

[edit] Medical uses

See also article: Proteases (medical and related uses)

Bromelain has a number of medical uses. It was first introduced in this area in 1957, and works by blocking some proinflammatory metabolites that accelerate and worsen the inflammatory process. *In vitro* research has shown that bromelain decreases migration of neutrophils to sites of acute inflammation, and *in vivo* bromelain has generated a 50-85% reduction in neutrophil migration.^[2] It is an anti-inflammatory agent, and so can be used for sports injury, trauma, arthritis, and other kinds of swelling. Its main uses are treatment of athletic

injuries, digestive problems, phlebitis, sinusitis, and aiding healing after surgery. Doses of 200 mg have proven to be an efficacious alternative to NSAIDS.^[3]

It has also been proposed for the treatment of arthritis,^[4] chronic venous insufficiency, easy bruising, gout, hemorrhoids, menstrual pain, autoimmune disorders, and ulcerative colitis.

Studies have shown that bromelain can also be useful in the reduction of platelet clumping and blood clots in the bloodstream, especially in the arteries.

It may have treatment potential for HIV.^[5]

Systemic enzyme therapy (consisting of combinations of proteolytic enzymes such as bromelain, trypsin, chemotrypsin and papain) has been investigated in Europe to evaluate the efficacy of proteolytic enzymes in the treatment of breast, colorectal, and plasmacytoma cancer patients.^[6] These EBM (Good Epidemiological Practice) level II clinical studies have shown that systemic enzyme treatment significantly reduced many "tumor-induced and therapy-induced" side effects, including nausea, weight loss and fatigue.

Proprietary bromelain mixtures are being used for third degree burn treatment, and more are being approved.

Bromelain supplementation up to 460 mg has been shown to have no effect on human heart rate or blood pressure; however, increasing doses up to 1840 mg have been shown to increase the heart rate proportionately^[citation needed].

[edit] Production

It is produced in Thailand, Taiwan, and other tropical parts of the world where pineapples are grown.

Bromelain is prepared from the stem part of the pineapple plant after harvesting the fruit. This stem part is peeled, crushed and pressed to get the juice containing the soluble Bromelain enzyme.

Further processing includes concentration of the pressed juice to get a purified enzyme.

[edit] Other plant proteases

Other plant proteases include papain (from the papaya), actinidin (from the kiwi fruit), and ficin (from the fig).

[edit] See also

- Naturopathic medicine
- Phytonutrients

[edit] References

1. ↑ "PDVSA article citing Vicente Marcano (in Spanish)". <http://www.pdvsa.com/lexico/pioneros/marcano.htm>.
2. ↑ Fitzhugh DJ, Shan S, Dewhirst MW et al. (2008). Bromelain treatment decreases neutrophil migration to sites of inflammation. *Clin Immunol*. **128**:66-74.
3. ↑ Heinrich, Michael, A. D. Kinghorn, and J. D. Phillipson (2004). *Fundamentals of Pharmacognosy and Phytotherapy*. Churchill Livingstone. pp. 265. ISBN 0-43-07132-2.
4. ↑ Brien S, Lewith G, Walker A (2004). "Bromelain as a Treatment for Osteoarthritis: a Review of Clinical Studies". *Evidence-based complementary and alternative medicine: eCAM*. **1** (3): 251–257. doi:10.1093/ecam/neh035. PMID 15841258.
5. ↑ Kleef R, Delohery T, Bovbjerg D (1996). "Selective modulation of cell adhesion molecules on lymphocytes by bromelain protease 5". *Pathobiology* **64** (6): 339–46. doi:10.1159/000164070. PMID 9159029.

6. [^] Beuth J. (2008). Proteolytic enzyme therapy in evidence-based complementary oncology: fact of fiction? *Integr Cancer Ther.* **7**:311-316.
- Heinicke, R.M. and W.A. Gortner. 1957. Stem bromelain-a new protease preparation from pineapple plants. *Econ. Bot.* 11 (3): 225-234.
- Gutfreund A, Taussig S, Morris A (1978). "Effect of oral bromelain on blood pressure and heart rate of hypertensive patients". *Hawaii medical journal* **37** (5): 143–6. PMID 659096.
- Gregory S. Kelly, N.D. Bromelain: A Literature Review and Discussion of its Therapeutic Applications (*Alt Med Rev* 1996;1(4):243-257)

[edit] External links

- [MeSH *Bromelains*](#)
- [Technical information](#), Enzyme Univerisity
- [Bromelain](#), University of Maryland Medical Center



Health	2
Fire	1
Reactivity	0
Personal Protection	E

Material Safety Data Sheet Bromelain MSDS

Section 1: Chemical Product and Company Identification

<p>Product Name: Bromelain</p> <p>Catalog Codes: SLB4120</p> <p>CAS#: 9001-00-7</p> <p>RTECS: EF8575000</p> <p>TSCA: TSCA 8(b) inventory: Bromelain</p> <p>CI#: Not available.</p> <p>Synonym: Bromelain 80 GDU; Bromelain 120 GDU; Bromelain 600 GDU; Ananase; Bromelains; Bromelin</p> <p>Chemical Name: Bromelain</p> <p>Chemical Formula: Not available.</p>	<p>Contact Information:</p> <p>Sciencelab.com, Inc. 14025 Smith Rd. Houston, Texas 77396</p> <p>US Sales: 1-800-901-7247 International Sales: 1-281-441-4400</p> <p>Order Online: ScienceLab.com</p> <p>CHEMTREC (24HR Emergency Telephone), call: 1-800-424-9300</p> <p>International CHEMTREC, call: 1-703-527-3887</p> <p>For non-emergency assistance, call: 1-281-441-4400</p>
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Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Bromelain	9001-00-7	100

Toxicological Data on Ingredients: Bromelain: ORAL (LD50): Acute: >10000 mg/kg [Rat]. >10000 mg/kg [Mouse].

Section 3: Hazards Identification

Potential Acute Health Effects:
Hazardous in case of skin contact (irritant), of eye contact (irritant), of inhalation (lung irritant, lung sensitizer). Slightly hazardous in case of ingestion.

Potential Chronic Health Effects:
Hazardous in case of skin contact (irritant), of eye contact (irritant).
 CARCINOGENIC EFFECTS: Not available.
 MUTAGENIC EFFECTS: Not available.
 TERATOGENIC EFFECTS: Not available.
 DEVELOPMENTAL TOXICITY: Not available.
 The substance may be toxic to mucous membranes, upper respiratory tract, skin, eyes.
 Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

Skin Contact:

In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation: Not available.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: Not available.

Flash Points: Not available.

Flammable Limits: Not available.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: Slightly flammable to flammable in presence of heat.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available.

Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:

SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: As with most organic solids, fire is possible at elevated temperatures

Special Remarks on Explosion Hazards:

Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Section 6: Accidental Release Measures

Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by

spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:

Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Section 7: Handling and Storage

Precautions:

Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area. Refrigerate

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:

Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

Section 9: Physical and Chemical Properties

Physical state and appearance: Solid. (Crystalline powder.)

Odor: Not available.

Taste: Not available.

Molecular Weight: Not available.

Color: Yellow-beige.

pH (1% soln/water): Not available.

Boiling Point: Not available.

Melting Point: Not available.

Critical Temperature: Not available.

Specific Gravity: Not available.

Vapor Pressure: Not applicable.

Vapor Density: Not available.

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water.

Solubility: Soluble in cold water.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Excess heat, incompatible materials

Incompatibility with various substances: Reactive with oxidizing agents.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Inhalation. Ingestion.

Toxicity to Animals: Acute oral toxicity (LD50): >10000 mg/kg [Mouse].

Chronic Effects on Humans: May cause damage to the following organs: mucous membranes, upper respiratory tract, skin, eyes.

Other Toxic Effects on Humans:

Hazardous in case of skin contact (irritant), of inhalation (lung irritant, lung sensitizer).

Slightly hazardous in case of ingestion.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects:

Skin: Causes skin irritation. Bromelain is a proteolytic enzyme found in pineapple. Theoretically bromelain breaks down the connecting structure that holds surface skin cells together, which causes exfoliation, but it can also cause irritation. However, exactly how much bromelain is needed, whether it is stable, and in what bases and pH it works best have not been established. There is little to no research demonstrating how Bromelain reacts on skin.

Eyes: Causes eye irritation. May cause chemical conjunctivitis.

Inhalation: Causes respiratory tract irritation. May produce delayed pulmonary edema.

Ingestion: May cause nausea, vomiting, diarrhea, cramping. May also cause menorrhagia. It also can act as a blood thinning agent by affecting the blood clotting (reducing prothrombin) and preventing the aggregation of

platelets.

It may affect behavior/central nervous system (irritability, convulsions), and respiration (dyspnea, cyanosis). It is expected to be rare by ingestion. These effects were observed during I.V. administration of Bromelain in rats.

Chronic Potential Health Effects:

Skin: Repeated exposure may cause sensitization dermatitis. Extended or repeated exposure to high concentrations causes exfoliation.

Inhalation: Repeated exposure may cause allergic respiratory reaction (asthma).

Medical Conditions Aggravated by Exposure: Individuals allergic to pineapples; individuals on anticoagulants or antithrombotic medications. Bromelain may enhance anticoagulant activity of anticoagulating medications (e.g. warfarin), and the antithrombotic activity of antithrombotic drugs (e.g. aspirin); Concomitant use of Bromelain and amoxicillin or tetracycline can increase the serum levels of these antibiotics.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: Not available.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

Section 15: Other Regulatory Information

Federal and State Regulations: TSCA 8(b) inventory: Bromelain

Other Regulations:

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada): Not controlled under WHMIS (Canada).

DSCL (EEC):

R36/37/38- Irritating to eyes, respiratory system and skin.

R42- May cause sensitization by inhalation.

S22- Do not breathe dust.
S24- Avoid contact with skin.
S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37- Wear suitable protective clothing and gloves.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 1

Reactivity: 0

Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 1

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves.

Lab coat.

Dust respirator. Be sure to use an approved/certified respirator or equivalent.

Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

Created: 10/11/2005 01:06 PM

Last Updated: 11/06/2008 12:00 PM

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MATERIAL SAFETY DATA SHEET - ISOPROPYL ALCOHOL 70%

SECTION 1 - PRODUCT IDENTITY

PRODUCT NAME-IDENTITY: Isopropyl Alcohol 70%

CHEMICAL FAMILY: Isopropanol-Alcohol

D.O.T. HAZARD CLASSIFICATION: UN 1219 Flammable

EXCEMPTION: 173.118

MANUFACTURER NAME: Sparhawk Laboratories, 12340 Santa Fe Trail Drive, Lenexa, Kansas 66215

TELEPHONE # FOR INFORMATION: (913) 888-7500

DATE PREPARED: 3/10/93

SECTION 2 - HAZARDOUS INGREDIENT INDENTITY INFORMATION

HAZARDOUS COMPONENTS (SPECIFIC CHEMICAL IDENTITY, COMMON NAMES):

Isopropyl Alcohol (Cas # 67-63-0); 70% Threshold Lmt. 400 ppm, Water 30%

SECTION 3 - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT: 190°F

VAPOR PRESSURE (mm Hg): 25 @ 66°F

VAPOR DENSITY (Air =1): 1.6

SOLUBILITY IN WATER: Complete

PH: 6 - 8

SPECIFIC GRAVITY: 0.85 - (H₂O = 1)

MELTING POINT: NA

EVAPORATION RATE (Butyl Acetate = 1): 0.7

APPEARANCE AND ODOR: Colorless, clear liquid with alcoholic odor

SECTION 4 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED): Approximate 77°F - TCC

FLAMMABLE LIMIT: Percent Volume in Air: Lower: 2; Upper: 12

EXTINGUISHING MEDIA: Water fog, "alcohol foam", dry chemical or CO₂

SPECIAL FIREFIGHTING PROCEDURE: Warning flammable. Evacuate personnel, full bunker gear required including helmet with face shield, bunker coats, gloves, and rubber boots and a positive pressure NIOSH approved self-contained breathing apparatus. Cool fire exposed containers with water.

UNUSUAL FIRE & EXPLOSION HAZARDS: Containers exposed to intense heat should be cooled with water to prevent vapor pressure build-up, which could result in container rupture.

Containers exposed to direct flames should be cooled with large quantities of water to prevent weakening of container structure.

SECTION 5 - REACTIVITY DATA

STABILITY: Stable

CONDITIONS TO AVOID: Sparks, heat, flames and contact with strong oxidizing agents.

HAZARDOUS DECOMPOSITION OF BYPRODUCTS: Carbon monoxide and unidentifiable organic compounds may be found during combustion.

INCOMPATIBILITY (Materials to Avoid): Contact with strong oxidizing agents. Do not store or handle in aluminum equipment at temperatures above 120°F.

HAZARDOUS POLYMERIZATION: Will not occur

CONDITIONS TO AVOID: Do not store or handle in aluminum equipment at temperatures above 120°F.

SECTION 6 - HEALTH HAZARD DATA

ROUTES OF ENTRY: SKIN/EYES? Yes; HEALTH HAZARD (ACUTE & CHRONIC): Mildly irritating to tissue.

INHALATION? Yes; HEALTH HAZARD (ACUTE & CHRONIC): Mildly irritating to nose, throat and respiratory tract

INGESTION? ; Chronic irritating to gastro intestinal tract causing vomiting and abdominal pain.

CARCINOGENICITY: No

TOXICITY: Acute oral 5840 mg/kg (rat), acute dermal LD 50 13,000 mg/kg (rabbit), acute inhalation LD 50 12,000 ppm (rat) 8 hours.

SIGNS & SYMPTOMS OF EXPOSURE: May cause mild irritation to the nose, throat and respiratory tracts. May result in central nervous system (CNS) depression which is evidenced by headache, dizziness, nausea, and in extreme cases, unconsciousness.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Pre-existing skin, eye and respiratory disorders may be aggravated by exposure. Impaired liver function from preexisting disorders may be aggravated by exposure to this product.

EMERGENCY & FIRST AID PROCEDURE: Flush eyes or skin with water and obtain medical attention. If breathing is difficult, remove victim to fresh air and provide oxygen and medical attention. If ingested, give victim water and induce vomiting by giving 2 tablespoons of syrup of Ipecac.

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Contain leak. Soap up residue with absorbent clay or sand and place in non-leaking containers. Eliminate all ignition sources.

WASTE DISPOSAL METHOD: Follow local, state and federal disposal requirements.

PRECAUTIONS TO BE TAKEN IN HANDLING & STORAGE: Keep containers closed when not in use. Use with adequate ventilation. Avoid prolonged or repeated contact with skin.

OTHER PRECAUTIONS: Precautions for repair and maintenance of contaminated equipment: wear protective clothing, safety goggles, NIOSH approved respirator and gloves. Thoroughly clean equipment with detergent and water to remove product before starting repairs. Do not store or handle in aluminum equipment above 120°F. Handling equipment must be grounded to prevent sparking. Keep liquid and vapors away from heat, sparks and flames, including pilot lights. Vapors may accumulate and travel to ignition sources distant from point of use resulting in flash fires. Do not cut, drill, grind, or weld near or on containers as they can contain explosive vapors. Do not pressurize drum containers to empty them. Bond and ground transfer containers and equipment.

SECTION 8 - CONTROL & SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:

VENTILATION: LOCAL EXHAUST: Yes; SPECIAL: If large quantities stored or handled, use explosion proof ventilation to control vapor concentrations. MECHANICAL:

PROTECTIVE GLOVES: Rubber or Neoprene

EYE PROTECTION: Safety goggles.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: For respiratory protection, use an atmosphere-supplying respirator or NIOSH approved respirator. Eye wash fountains or safety showers should be available for emergency use.

WORK/HYGENIC PRACTICES: Wash with soap and water before eating, drinking, smoking or using toilet facilities. Launder contaminated clothing before re-use.

The above information is believed to be accurate and represents the best information available to us at the time this Material Safety Data Sheet was prepared. The information is provided to our customers in good faith; however, no warranty, expressed or implied, is made.

MATERIAL SAFETY DATA SHEET

MANUFACTURER: TAYLOR TECHNOLOGIES, INC
 31 LOVETON CIRCLE
 SPARKS, MD 21152
 TELEPHONE: 410-472-4340

1. PRODUCT IDENTIFICATION

CATALOG NO.: R-0600
 PRODUCT NAME: Orthotolidine
 CHEMICAL FAMILY: Acidic aromatic halogen solution

2. INGREDIENTS

INGREDIENT	CAS NO.	%	NATURE OF HAZARD
*Orthotolidine dihydrochloride	612-82-8	<0.5	Suspect carcinogen
Hydrochloric acid	7647-01-0	<10	Corrosive acid
Deionized water	7732-18-5	to 100	None

*This chemical is subject to the reporting requirements of SARA Title III Section 313 and 40 CFR 372.

3. PHYSICAL/CHEMICAL CHARACTERISTICS

STATE: Liquid APPEARANCE: Clear, slight yellow ODOR: None
 BOILING PT (F): 212 pH: .01 SPECIFIC GRAVITY: 1.03
 VAPOR PRESSURE (mm Hg): 17 VAPOR DENSITY (AIR=1): .6
 PERCENT VOLATILE BY VOLUME: 99 SOLUBILITY IN WATER: Soluble

4. FIRE, EXPLOSION HAZARD AND REACTIVITY DATA

FLASH PT: NA METHOD: NA
 FLAMMABLE LIMITS: LEL: NA UEL: NA
 EXTINGUISHING MEDIA: Dry chemical, carbon dioxide, water spray or foam
 SPECIAL PROCEDURES: Wear self-contained (positive pressure if available) breathing apparatus and special protective clothing
 FIRE/EXPLOSION HAZARDS AND HAZARDOUS DECOMPOSITION PRODUCTS: Contact with metals may produce hydrogen gas. May emit toxic fumes of chlorine, hydrogen chloride.
 NFPA CODE: Health: 3 Flammability: 0 Reactivity: 2 Special: NA
 CONDITIONS TO AVOID: Extreme heat, temperatures. Contact with metals, alkalis, strong oxidizers.

5. HEALTH HAZARD DATA

INGREDIENT: Orthotolidine dihydrochloride
 TOXICITY: LD50(oral-rat): 404 mg/kg
 PEL: NE TLV: 2 ppm (skin)
 STEL: NE

INGREDIENT: Hydrochloric acid
 TOXICITY: LD50(oral-rat): 900 mg/kg LC50(ihl-rat): 3124 ppm/1H
 PEL: 7 mg/m3 (ceiling) TLV: 7 mg/m3 (ceiling)
 STEL: NE

5. HEALTH HAZARD DATA - continued

ROUTE(S) OF ENTRY: Inhalation X Ingestion X Skin X

TARGET ORGAN(S): Eyes, skin, respiratory tract

CARCINOGENICITY: NTP Yes IARC Yes OSHA No

HEALTH HAZARDS AND SYMPTOMS OF EXPOSURE:

EYES: Corrosive. Contact may cause severe burns.

SKIN: Corrosive. Contact may cause severe burns.

INGESTION: Corrosive. May cause severe gastrointestinal irritation, cyanosis, headache, dizziness, burns of mouth, esophagus and stomach.

INHALATION: Irritant

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Eye, skin, and respiratory conditions

6. PRECAUTIONARY MEASURES

PROTECTIVE EQUIPMENT: Rubber gloves, safety glasses, lab coat, rubber apron, adequate ventilation.

HANDLING: Avoid contact with eyes, skin, and clothing. Avoid breathing chemical. Wash thoroughly after handling.

STORAGE: Cool, dry, well-ventilated area. Avoid direct sunlight.

7. EMERGENCY AND FIRST AID PROCEDURES

EYE AND SKIN CONTACT: Immediately flush eyes with water for 20 minutes or until chemical is removed. Call physician. Wash skin thoroughly with baking soda, soap and water.

INGESTION: Give large amounts of water or large amounts of water with milk of magnesia. Call physician. DO NOT INDUCE VOMITING. DO NOT give anything by mouth to a person who is unconscious, rapidly losing consciousness, or convulsing.

INHALATION: Remove to fresh air. Call physician.

8. SPILL AND DISPOSAL PROCEDURES

SPILL OR RELEASE: Neutralize with soda ash. Absorb with vermiculite or other inert material. Containerize for later disposal.

DISPOSAL: Incineration or other method to comply with all local, state, and federal regulations.

NA = Not applicable

ND = Not determined

NE = Not established

This Material Safety Data Sheet has been prepared in accordance with 29 CFR Part 1910.1200 and contains information believed to be accurate and complete at the date of preparation. However, no warranty is expressed or implied. Advice given under "Spill and Disposal Procedures" assumes compliance with federal, state, and local regulations regarding the disposal of hazardous waste.

DATE PREPARED: July 2005

Section 1 — Chemical Product and Company Identification

Phenol Red

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Phenol Red, sodium salt

Synonyms: phenolsulfonephthalein indicator

CAS#: 34487-61-1

Section 3 — Hazards Identification

Bright to dark red crystal or powder. Odorless.
Irritating to body tissues. Avoid all body tissue contact.

FLINN AT-A-GLANCE

Health-0
Flammability-0
Reactivity-0
Exposure-1
Storage-0

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash continuously with fresh water for 15 minutes.

Internal: Give large quantities of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Non flammable solid.

When heated to decomposition, emits toxic fumes of SO_x.

Fire Fighting Instructions: Use triclass, dry chemical fire extinguisher. Firefighters should wear PPE and SCBA with full facepiece operated in positive pressure mode.

NFPA CODE

None Established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area. Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Organic #9. Store with dyes, indicators, and stains.

Store in a cool dry place.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron.

Section 9 — Physical and Chemical Properties

Bright to dark red crystal or powder. Odorless.
Acid/base Indicator: pH 6.8 yellow to 8.4 red
Solubility: Alkali hydroxides and carbonates; slightly in water and alcohol.

Formula: C₁₉H₁₃NaO₅S
Formula Weight: 376.36

Section 10 — Stability and Reactivity

Avoid contact with strong oxidizers.
Shelf life: Indefinite.

Section 11 — Toxicological Information

Acute effects: Irritant
Chronic effects: N.A.
Target organs: N.A.

ORL-RAT LD50: N.A.
IHL-RAT LC50: N.A.
SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.
Flinn Suggested Disposal Method #26a is one option.

Section 14 — Transport Information

Shipping Name: Not regulated
Hazard Class: N/A
UN Number: N/A

N/A = Not applicable

Section 15 — Regulatory Information

TSCA-listed, EINECS-listed (252-057-8).

Section 16 — Other Information

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals. This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

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flinn@flinnsci.com www.flinnsci.com
P.O. Box 219 Batavia IL 60510
(800) 452-1261 Fax (866) 452-1436

Section 1 — Chemical Product and Company Identification

Pumice

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Pumice

CAS#: None Established

Section 3 — Hazards Identification

Glossy, fine sand type appearance. Odorless.

Substance not considered hazardous. However, not all health aspects of this substance have been thoroughly investigated.

FLINN AT-A-GLANCE

Health-0
Flammability-0
Reactivity-0
Exposure-0
Storage-0

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash continuously with fresh water for 15 minutes.

Internal: Give large quantities of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Non flammable solid.

NFPA CODE

None Established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area. Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Inorganic #4. Store with hydroxides, oxides, silicates and carbonates.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron.

Section 9 — Physical and Chemical Properties

Glossy, fine sand type appearance.
Not attacked by acids. Odorless.
Porous rock; ground into powder; usually 75% silicon oxide and 25% aluminum oxide. Insoluble in water and acids.

Section 10 — Stability and Reactivity

Shelf life: Indefinite.

Section 11 — Toxicological Information

Acute effects: N.A.	ORL-RAT LD50: N.A.
Chronic effects: N.A.	IHL-RAT LC50: N.A.
Target organs: N.A.	SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.
Flinn Suggested Disposal Method #26a is one option.

Section 14 — Transport Information

Shipping Name: Not regulated
Hazard Class: N/A
UN Number: N/A

N/A = Not applicable

Section 15 — Regulatory Information

Not listed.

Section 16 — Other Information

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals. This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

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flinn@flinnsci.com www.flinnsci.com
P.O. Box 219 Batavia IL 60510
(800) 452-1261 Fax (866) 452-1436



Material Safety Data Sheet

Section I - Product and Company Identification

Supplier Name	Pyramex Safety Products, LLC
Address (number, street, state & zip code)	281A Moore Lane Collierville, TN 38017
Phone Number	1-800-736-8673
Fax Number	1-901-861-4967
Emergency Phone Number	Call INFOTRAC: 1-800-535-5053
Product Name	Pyramex Safety Lens Cleaning Towelette
Trade Names and Synonyms	Towelette, LCT1, LCT100, LCT100SP, LCTAHS, LCTFAS, LCTHAR, LCTWES, LCTSTA, LCC100
Date Issued	12/6/2007
Date Revised	12/3/2009

Section II - Hazards Identification

Potential Health Effects

Principal Routes of Exposure	Skin contact
Acute Toxicity	
Eyes	Vapor May cause irritation.
Inhalation	May be harmful if inhaled. Avoid breathing vapors. May cause irritation of respiratory tract. May cause central nervous system depression with nausea, headache, dizziness, and vomiting.
Skin	May be harmful in contact with skin. May cause irritation.
Ingestion	May be harmful if swallowed. May cause gastro-intestinal irritation, nausea, vomiting and diarrhea.
Chronic Effects	Avoid repeated exposure. Contains a known or suspected reproductive toxin.
Aggravated Medical Conditions	Central nervous system. Preexisting eye disorders. Blood Disorders. Kidney disorders. Liver disorders. Overexposure may cause female and male reproductive disorder(s). Skin Disorders. Respiratory disorders.
Interactions with other Chemicals	Use of Alcoholic beverages may enhance toxic effects.

Section III - Composition/Information on Ingredients

Component	CAS#	%(WT)
Water	773-18-5	60-85
Isopropyl Alcohol	67-63-0	10-30
Anti-Fog	56-81-5	<1
Anti-Static	68391-01-5	<1
Supplier Trade Secret	Proprietary	5-10

Section IV - First Aid Measures

EYES	Flush well with water, also under eyelids, for at least 15 minutes. Get Medical assistance if symptoms persist.
SKIN	Wash well with soap and water. If irritation persists, or allergic reaction occurs, call a physician.
Inhalation	Remove to fresh air and give oxygen if needed. If not breathing, give artificial respiration and call for Medical assistance.
Ingestion	DO NOT induce vomiting. Rinse Mouth. Drink Plenty of water. Never give anything by mouth to an unconscious person. Consult a physician.
Notes to Physicians	Treat symptomatically

Section V - Fire-Fighting Measures			
Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.		
Uniform Fire Code	Irritant: Liquid Combustible Liquid III-B		
Flash Point	Not available		
Hazardous Byproducts of Combustion	Carbon oxides		
Explosion Data			
Sensitivity to Mechanical Impact	Not sensitive		
Sensitivity to Static Discharge	Yes		
Protective Equipment	Wear Self contained breathing apparatus pressure-demand, MSHA/NIOSH approved (or equivalent), and full protective gear.		
Special Precautions - NFPA			
Health Hazard	2		
Flammability	1		
Stability	0		
Section VI - Accidental Release Measures			
Personal Precautions	Use personal protective equipment. Avoid contact with skin and eyes. Remove all sources of ignition.		
Containment Methods	Prevent further leakage or spillage if safe to do so.		
Clean-up Methods	Use personal protective equipment. Soak up with absorbent material. Pick up and transfer to properly labeled containers.		
Section VII - Handling and Storage			
Handling	Handle in accordance with good industrial hygiene and safety practices. Avoid contact with skin and clothing. Wear personal protective equipment. Keep away from open flames, hot surfaces and sources of ignition. Keep out of the reach of children.		
Storage	Keep container tightly closed. Keep away from open flames, hot surfaces and sources of ignition. Keep out of the reach of Children.		
Section VIII - Exposure Controls/Personal Protection			
Exposure Guidelines			
Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Isopropyl Alcohol	+400 ppmSTEL TWA: 200 ppm	TWA:400ppm TWA:980mg/m3 (vacated) TWA: 400 ppm (vacated) TWA:980 mg/m3 (vacated) STEL: 1225 mg/m3 (vacated) STEL: 500 ppm	IDLH:2000 ppm 10% LEL TWA:400 PPM TWA: 980 mg/m3 STEL: 1225 mg/m3 STEL:500 PPM
Supplier Trade Secret	TWA: 20 ppm	TWA: 50 ppm TWA: 240 mg/m3 (vacated) TWA: 25 ppm (vacated) TWA: 120 mg/m3 Skin	IDLH: 700 ppm TWA: 5 ppm TWA: 24 mg/m3
Engineering Measures		Showers. Eyewash Stations. Ventilation Systems	
Personal Protective Equipment			
Eye & Face Protection		No special equipment required	
Skin & Body Protection		Protective gloves	
Respiratory Protection		If exposure limits are exceeded or irritation is experienced. NIOSH/MSHA approved respiratory protection should be worn. Positive pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.	
Hygiene Measures		When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use. Provide regular cleaning of equipment, work area and clothing.	

Section IX - Physical and Chemical Properties

Appearance	White solid
Odor	Mild Alcohol Smell
Physical State	Solid. Solid containing liquid. Moist paper
pH	7

Section X - Stability and Reactivity

Stability	Stable under recommended storage conditions
Incompatibility (Material to Avoid)	Strong oxidizing agents. Acids. Chlorinated compounds
Conditions to Avoid	Heat, Flames, Sparks
Hazardous Decomposition or By-Products	Carbon oxides
Hazardous Polymerization	Will Not Occur

Section XI - Toxicological Information

Acute Toxicity	May be harmful by inhalation, ingestion or skin absorption
-----------------------	--

Chemical Name	LD50 Oral	LD50 Dermal	LD50 Inhalation
Water	90 mL/kg (Rat)		
Isopropyl Alcohol	4396 mg/kg (Rat)	12800 mg/kg (Rat) 2270 mg/kg (Rabbit)	72.6mg/L (Rat) 4h
Supplier Trade Secret	470 mg/kg (Rat)	220 mg/kg (Rat) 2270 mg/kg (Rabbit)	2.21 mg/L (Rat) 4h 450 ppm (rat) 4h

Chronic Toxicity	Avoid repeated exposure. Contains a known or suspected reproductive toxin.
-------------------------	--

Carcinogenicity

Chemical Name	ACGIH	IARC	NTP	OSHA
Supplier Trade Secret	A3			

ACGIH: American Conference of Governmental Industrial Hygienists

A3: Animal Carcinogen

Target Organ Effects	Blood, Central Nervous System (CNS), Eyes, Hematopoietic System, Kidney, Liver, Respiratory System, Skin.
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Section XII - Ecological Information

Ecotoxicity

The environmental impact of this product has not been fully investigated. Ecotoxicity effects of component substances follows:

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Isopropyl Alcohol	EC50>1000mg/L 72h EC50>1000mg/L 96h	LC50=61200 mg/L Pimephales promelas 96h LC50=94900 mg/L Pimephales promelas 96h LC50=9640 mg/L Pimephales promelas 96h	EC > 5035390 mg/L 5 min.	EC50 = 13299 mg/L 48h
Supplier Trade Secret		LC50=1490 mg/L Lepomis macrochirus 96h		LC50 1698-1940 mg/L 24h EC50=1720 mg/L 24h

Chemical Name	Log Pow
Isopropyl Alcohol	=0.05 25A deg. C
Supplier Trade Secret	=0.81 25A deg. C

Section XIII - Disposal Considerations

Waste Disposal Methods	This material as supplied is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.
-------------------------------	--

Contaminated Materials	Dispose of in accordance with local regulations.
-------------------------------	--

This product contains one or more substances that are listed with the State of California as a hazardous waste:

Chemical Name	California Hazardous Waste Status
Isopropyl Alcohol	Toxic, Ignitable.

Section XIV - Transport Information

DOT, TDG, MEX, ICAO, ITAT, IMDG/IMO, RID, ADR, ADN - Product not regulated.

Section XV - Regulatory Information

International Inventories

TSC -----Complies	IECSC -----Does not comply
DSL -----Does not comply	KECL -----Does not comply
EINECS/ELINCS ---Does not comply	PICCS -----Does not comply
ENCS -----Does not comply	AICS -----Does not comply

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains the following chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, part 372.

Chemical Name	CAS No.	% by Weight	SARA 313 - Threshold Values %
Isopropyl Alcohol	67-63-0	10-30	1
Supplier Trade Secret	Proprietary	5-10	1

SARA 313/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Pressure Release Hazard	No
Reactive Hazard	No

Clean Water Act

This Product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Isopropyl Alcohol				X

Clean Air Act, Sec. 112 Hazardous Air Pollutants (HAPS)(see 40 CFR 61)

This product contains the following substances which are listed hazardous air pollutants (HAPS) under Sec. 112 of the Clean Air Act.

Chemical Name	CAS No.	% by Weight	HAPs Data	VOC Chemicals
Supplier Trade Secret	Proprietary	5-10	Present (includes mono-and diethers of ethylene glycol and triethylene glycol, except ethylene glycol monobutyl ether [EGBE]. See 40 CFR 63.62 for redefinition of glycol ethers listed as hazardous air pollutants.	Group I

CERCLA

This material as supplied does not contain any substances regulated as hazardous substances under the Comprehensive Environmental response Compensation and Liability Act(CERCLA)(40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA)(40 CFR 355). There may be specific reporting requirements at the local, regional or state level pertaining to releases of this material.

U.S. State Regulations**California Proposition 65**

This Product does not contain any Proposition 65 Chemicals.

International Regulations**Mexico - Grade**

Moderate risk - Grade 2

Chemical Name	Carcinogen Status	Exposure Limits
Isopropyl Alcohol		Mexico: TWA=26 ppm
		Mexico: TWA=120 mg/m3
		Mexico: STEL=360 mg/m3
		Mexico: STEL=75 ppm
Supplier Trade Secret		Mexico: TWA=400 ppm
		Mexico: TWA=980 mg/m3
		Mexico: STEL=1225 mg/m3
		Mexico: STEL=500 ppm

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR), and the MSDS contains all of the information required by the CPR.

WHMIS Hazard Class

B3 Combustible Liquid
D2B Toxic Materials

Chemical Name	National Pollutant Release Inventory
Isopropyl Alcohol	X
Supplier Trade Secret	X

Section XVI - Other Information

Disclaimer: The information in this MSDS was obtained from sources, which we believe are reliable. However, the information is provided without any representation or warranty, expressed or implied, regarding the accuracy or correctness.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, Pyramex Safety Products, LLC and its Divisions and Subsidiaries, Officers and Employees do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

Section 1 — Chemical Product and Company Identification

Sand

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Sand

CAS#: 14808-60-7

Section 3 — Hazards Identification

Colorless or tan-colored crystals. Odorless.

Substance not considered hazardous. However, not all health aspects of this substance have been thoroughly investigated.

FLINN AT-A-GLANCE

Health-0
Flammability-0
Reactivity-0
Exposure-0
Storage-0

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash with mild soap and water.

Internal: Give large quantities of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Non flammable solid.

NFPA CODE

None Established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area. Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Inorganic Miscellaneous.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron.

Section 9 — Physical and Chemical Properties

Colorless or tan-colored crystals. Odorless.
Usually the major constituent is SiO₂ (silicon dioxide).

Melting Point: 1710 C (silicon dioxide).

Section 10 — Stability and Reactivity

Shelf life: Indefinite.

Section 11 — Toxicological Information

Acute effects: N.A.
Chronic effects: N.A.
Target organs: N.A.

ORL-RAT LD50: N.A.
IHL-RAT LC50: N.A.
SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.
Flinn Suggested Disposal Method #26a is one option.

Section 14 — Transport Information

Shipping Name: Not regulated
Hazard Class: N/A
UN Number: N/A

N/A = Not applicable

Section 15 — Regulatory Information

Not listed.

Section 16 — Other Information

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flinn@flinnsci.com www.flinnsci.com
P.O. Box 219 Batavia IL 60510
(800) 452-1261 Fax (866) 452-1436

Mizkan Americas, Inc.
Material Safety Data Sheet

1 of 1

Dilute Vinegar (4.0% - 10.0% Acetic Acid)

Date Issued: January 1, 2004

Trade Name: Vinegar

Chemical Name: Dilute Acetic Acid (CH₃COOH)

CAS Registry No.: 8028-52-2

Definition: Product made by the acetous fermentation of ethyl alcohol to contain 4 - 10% acetic acid (or 40 - 100 grain vinegar).

Manufacturer's Name & Address:

Mizkan Americas
55 E. Euclid Avenue, Suite 300
Mount Prospect, IL 60056

Contact: Zia Mir
Corporate Quality Assurance

Phone Number: (847) 590-0059 ext. 331

HEALTH HAZARD DATA

Inhalation: Threshold Limit Value: 10 ppm
Short Term Exposure Limit: 15 ppm for 15 minutes
Odor Threshold: 1.0 ppm

Prolonged inhalation of vapors can cause irritation to respiratory tract.

Eyes: Will cause eye irritation - smarting and reddening of the eye

EMERGENCY & FIRST-AID PROCEDURES

In case of eye contact, flush immediately and thoroughly with water.
If swallowed in large amounts, water should be consumed to dilute. Do not induce vomiting.
Do not give emetics or baking soda.

Mizkan Americas, Inc.
Material Safety Data Sheet

2 of 2

Dilute Vinegar (4.0% - 10.0% Acetic Acid)

SPILL OR LEAK PROCEDURES

If vinegar is spilled, water may be used to dilute. Treat or dispose of waste material in accordance with all local, state/provincial, and national requirements.

DISPOSAL CONSIDERATIONS

Treat or dispose of waste material in accordance with all local, state/provincial, and national requirements.

PHYSICAL DATA

Appearance & Odor: Appropriate color and odor for type of vinegar

Boiling Point: 244° F Vapor Pressure (MMHg): 11MM

Vapor Density (Air = 1): 2.1 Solubility in Water: Complete

Specific Gravity: 1.01 pH: 2.2 @100 grain (10.0%)

Stability: Good Hazardous Polymerization - will not occur

Incompatibility with Other Materials: Avoid contact with strong oxidizing agents. Avoid contact with strong bases.

EXPOSURE CONTROLS

Engineering Controls: Good general ventilation should be sufficient to control airborne levels.

Section 1 — Chemical Product and Company Identification

Sodium Bicarbonate

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Sodium Bicarbonate

CAS#: 144-55-8

Section 3 — Hazards Identification

White powder or crystals (frequently in lumps). Odorless.
Slightly toxic by ingestion. Dust may be irritating to respiratory system.

FLINN AT-A-GLANCE

Health-1
Flammability-0
Reactivity-0
Exposure-1
Storage-1

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash continuously with fresh water for 15 minutes.

Internal: Rinse out mouth, give 1 to 2 cups of water or milk, induce vomiting. After vomiting, give mixture of 2 Tbs. of activated charcoal mixed with one cup of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Non combustible solid.

NFPA CODE

None Established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area. Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Inorganic #4. Store with hydroxides, oxides, silicates and carbonates.

Store in a cool dry place. Store in a Flinn Chem-Saf bag.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron. Use exhaust ventilation to keep airborne concentrations low.

Section 9 — Physical and Chemical Properties

White powder or crystals (frequently in lumps). Odorless.
Solubility: Soluble in water, not alcohol.
Formula: NaHCO₃
Formula Weight: 84.01

Specific Gravity: 2.159
Melting Point: loses carbon dioxide at 270 C

Section 10 — Stability and Reactivity

Avoid contact with strong oxidizers and strong acids.
Shelf Life: Stable under dry storage conditions; slowly decomposes in moist air.

Section 11 — Toxicological Information

Acute effects: Gastrointestinal disturbances, irritating dust
Chronic effects: N.A.
Target organs: N.A.

ORL-RAT LD50: 4220 mg/kg
IHL-RAT LC50: N.A.
SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.
Flinn Suggested Disposal Method #26a is one option.

Section 14 — Transport Information

Shipping Name: Not regulated
Hazard Class: N/A
UN Number: N/A

N/A = Not applicable

Section 15 — Regulatory Information

TSCA-listed, EINECS-listed (205-633-8).

Section 16 — Other Information

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(800) 452-1261 Fax (866) 452-1436

Section 1 — Chemical Product and Company Identification

Sodium Borate, Tetra

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Sodium Borate, Tetra

Synonym: Borax, sodium pyroborate

CAS#: 1303-96-4

Section 3 — Hazards Identification

White, odorless crystals or powder.

Slightly toxic by ingestion, inhalation, and skin absorption. Irritating to body tissues. Avoid all body tissue contact.

FLINN AT-A-GLANCE

Health-1
Flammability-0
Reactivity-0
Exposure-1
Storage-1

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash continuously with fresh water for 15 minutes.

Internal: Rinse out mouth, give 1 to 2 cups of water or milk, induce vomiting. After vomiting, give mixture of 2 Tbs. of activated charcoal mixed with one cup of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Non flammable solid.

NFPA CODE

None Established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area. Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Inorganic #8. Store with borates, chromates, manganates and permanganates.

Store in a cool dry place. Deliquescent, store in Flinn Chem-Saf Bag.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron.

Use ventilation to keep airborne concentrations below exposure limits. Always wear a NIOSH-approved respirator with proper cartridges or a positive pressure, air-supplied respirator when handling this material in emergency situations (spill or fire).

Exposure guidelines: TWA 5 mg/m³ (Ba) (ACGIH)

Section 9 — Physical and Chemical Properties

White, odorless crystals or powder.
Solubility: Soluble in water and glycerol; not alcohol.
Formula: Na₂B₄O₇ 10H₂O
Formula Weight: 381.42

Specific Gravity: 1.73
Melting Point: between 75 & 320 C

Section 10 — Stability and Reactivity

Shelf Life: Material efflorescent. Store in a Flinn Chem-Saf bag.

Section 11 — Toxicological Information

Acute effects: Irritant
Chronic effects: N.A.
Target organs: Central nervous system, kidneys

ORL-RAT LD50: 2660 mg/kg
IHL-RAT LC50: N.A.
SKN-RBT LD50: >2 gm/kg

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.
Flinn Suggested Disposal Method #26a is one option.

Section 14 — Transport Information

Shipping Name: Not regulated
Hazard Class: N/A
UN Number: N/A

N/A = Not applicable

Section 15 — Regulatory Information

TSCA-listed, EINECS-listed (215-540-4).

Section 16 — Other Information

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Section 1 — Chemical Product and Company Identification

Sodium Chloride

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

White crystalline powder.

Synonym: table salt

CAS#: 7647-14-5

Section 3 — Hazards Identification

Colorless, odorless, crystals.

Slightly toxic by ingestion. Dust may cause minor irritation to mucous membranes upon inhalation.

FLINN AT-A-GLANCE

Health-1

Flammability-0

Reactivity-0

Exposure-0

Storage-0

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash with soap and water.

Internal: Give large quantities of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Non combustible.

When heated to decomposition, emits toxic fumes of Cl and Na₂O.

Fire Fighting Instructions: Use triclass, dry chemical fire extinguisher. Firefighters should wear PPE and SCBA with full facepiece operated in positive mode.

NFPA CODE

None Established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area. Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates. Store in a cool dry place. Keep container tightly closed.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron.

Section 9 — Physical and Chemical Properties

White crystalline powder. Odorless.
Solubility: Soluble in water and glycerol; slightly in alcohol.
Formula: NaCl
Formula Weight: 58.44

Specific Gravity: 2.165
Melting Point: 801 C
Boiling Point: 1413 C

Section 10 — Stability and Reactivity

Reacts violently with bromine trifluoride and lithium. Avoid contact with strong oxidizers, acids, bromine.
Shelf life: Fair, somewhat hygroscopic.

Section 11 — Toxicological Information

Acute effects: Irritant
Chronic effects: N.A.
Target organs: N.A.

ORL-RAT LD50: 3000 mg/kg
IHL-RAT LC50: N.A.
SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.
Flinn Suggested Disposal Method #26a is one option.

Section 14 — Transport Information

Shipping Name: Not regulated
Hazard Class: N/A
UN Number: N/A

N/A = Not applicable

Section 15 — Regulatory Information

TSCA-listed, EINECS-listed (231-598-3).

Section 16 — Other Information

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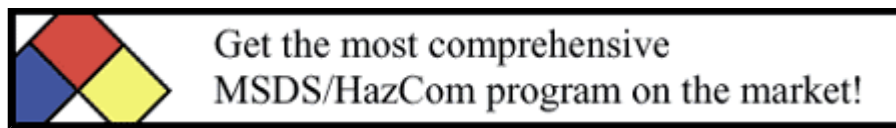
NO MSDS FOR THIS PRODUCT

For some products, a manufacturer/supplier is not required to provide the Material Safety Data Sheet (MSDS). Examples of products that generally do not have MSDS include:

- Tobacco or tobacco products
- Wood Products
- Certain Drugs
- Food Products
- Consumer products

This item does not have a MSDS. Fuss & O'Neill EnviroScience, (formerly EnviroScience Consultants LLC) requested a MSDS for this item, but was notified by the manufacturer/supplier that a MSDS was not required by Federal regulations.

Information concerning the types of products that are exempt from OSHS Hazard Communication standard may be found in Title 29 of the Code of Federal Regulations, Section 1910.1200 or from your local U. S. Department of Labor or State occupational safety office.



Material Safety Data Sheet

SECTION I - Material Identity
 SECTION II - Manufacturer's Information
 SECTION III - Physical/Chemical Characteristics
 SECTION IV - Fire and Explosion Hazard Data
 SECTION V - Reactivity Data
 SECTION VI - Health Hazard Data
 SECTION VII - Precautions for Safe Handling and Use
 SECTION VIII - Control Measures
 SECTION IX - Label Data
 SECTION X - Transportation Data
 SECTION XI - Site Specific/Reporting Information
 SECTION XII - Ingredients/Identity Information

SECTION I - Material Identity

Item Name	
Part Number/Trade Name	MINERAL OIL USP
National Stock Number	9150L400689F
CAGE Code	4T649
Part Number Indicator	A
MSDS Number	184723
HAZ Code	A

SECTION II - Manufacturer's Information

Manufacturer Name	BRISTOL-MYERS SQUIBB, PHARMACEUTICAL GROUP
P.O. Box	191
City	NEW BRUNSWICK
State	NJ
Country	US
Zip Code	08903
Emergency Phone	800 424-9300 CHEMTREC
Information Phone	(908) 519-2385

MSDS Preparer's Information

Street	PO BOX 191
City	NEW BRUNSWICK
State	NJ
Zip Code	08903
Date MSDS Prepared/Revised	16AUG91
Active Indicator	N

Alternate Vendors

SECTION III - Physical/Chemical Characteristics

Hazard Storage Compatibility Code	NR
NRC License Number	NR
Net Propellant Weight (Ammo)	NR
Appearance/Odor	CLEAR, COLORLESS, OILY LIQUID, ODORLESS
Boiling Point	655 F
Melting Point	NA
Vapor Pressure	<1 MMHG
Vapor Density	NR
Specific Gravity	0.88
Decomposition Temperature	NR
Evaporation Rate	NR
Solubility in Water	SOLUBLE
Percent Volatiles by Volume	NR
Chemical pH	NR
Corrosion Rate	NR
Container Pressure Code	4
Temperature Code	8
Product State Code	L

SECTION IV - Fire and Explosion Hazard Data

Flash Point Method	UNK
Lower Explosion Limit	NA
Upper Explosion Limit	NA
Extinguishing Media	DRY CHEMICAL, FOAM, CARBON DIOXIDE
Special Fire Fighting Procedures	WEAR SCBA AND FULL PROTECTIVE CLOTHING
Unusual Fire/Explosion Hazards	NR

SECTION V - Reactivity Data

Stability	YES
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Stability Conditions to Avoid	NR
Materials to Avoid	REACT VIOLENTLY WITH CHLORINE, OXYGEN AND OXIDIZING AGENTS
Hazardous Decomposition Products	THERMAL DECOMP MAY PRODUCE NOXIOUS PRODUCTS OF CO, CO2
Hazardous Polymerization	NO
Polymerization Conditions to Avoid	WILL NOT OCCUR
LD50 - LD50 Mixture	NR

SECTION VI - Health Hazard Data

Route of Entry: Skin	YES
Route of Entry: Ingestion	YES
Route of Entry: Inhalation	YES
Health Hazards - Acute and Chronic	[INGEST] ABDOMINAL CRAMPS AND DIARRHEA [INHAL] SHORTNESS OF BREATH AND COUGH ARE THE MOST COMMON SYMPTOMS [EYES] IRRITATING [SKIN] MILD DERMAL IRRITATION
Carcinogenity: NTP	NO
Carcinogenity: IARC	NO
Carcinogenity: OSHA	NO
Explanation of Carcinogenity	"NOT CLASSIFIABLE AS TO THEIR CARCINOGENICITY IN HUMANS"
Symptoms of Overexposure	[INGEST] ABDOMINAL CRAMPS AND DIARRHEA [INHAL] SHORTNESS OF BREATH AND COUGH ARE THE MOST COMMON SYMPTOMS [EYES] IRRITATING [SKIN] MILD DERMAL IRRITATION
Medical Cond. Aggravated by Exposure	CHRONIC RESPIRATORY DISEASE
Emergency/First Aid Procedures	[EYES] FLUSH W/ WATER FOR 15 MINUTES [SKIN] WASH W/ SOAP AND WATER, REMOVE CONTAMINATED CLOTHING, LAUNDER BEFORE REUSE [INHAL] REMOVE TO FRESH AIR [INGEST] DO NOT INDUCE VOMITING, NEVER GIVE ANYTHING TO AN UNCONSCIOUS PERSON

SECTION VII - Precautions for Safe Handling and Use

Steps if Material Released/Spilled	ABSORB LIQUID ONTO APPROPRIATE ABSORBENT MATERIAL AND PLACE INTO A CONTAINER FOR DISPOSAL
Neutralizing Agent	NR
Waste Disposal Method	DISPOSE IAW FEDERAL, STATE, LOCAL REGULATIONS
Handling and Storage Precautions	NR
Other Precautions	NR

SECTION VIII - Control Measures

Respiratory Protection	IF MATERIAL IS HEATED, THEN USE NIOSH/MSHA APPROVED RESPIRATOR
Ventilation	NR
Protective Gloves	IMPERMEABLE
Eye Protection	CHEM GOGGLES
Other Protective Equipment	WEAR PROTECTIVE CLOTHING
Work Hygenic Practices	WASH HANDS AFTER USE
Supplemental Health/Safety Data	NR
Disposal Code	O

SECTION IX - Label Data

Protect Eye	YES
Protect Skin	YES
Protect Respiratory	YES
Chronic Indicator	UNKNOWN
Contact Code	SLIGHT
Fire Code	UNKNOWN
Health Code	UNKNOWN
React Code	UNKNOWN

SECTION X - Transportation Data

SECTION XI - Site Specific/Reporting Information

Volatile Organic Compounds (P/G)	0
Volatile Organic Compounds (G/L)	0

SECTION XII - Ingredients/Identity Information

Ingredient #	01
Ingredient Name	MINERAL OIL
CAS Number	8042475
Proprietary	NO
Percent	100
OSHA PEL	5 MG/M3
ACGIH TLV	5 MG/M3

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Section 1 — Chemical Product and Company Identification

Starch

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Starch

Potato or Corn Starch

CAS#: Various

Section 3 — Hazards Identification

White amorphous powder. Odorless.

Substance not considered hazardous. However, not all health aspects of this substance have been thoroughly investigated.

FLINN AT-A-GLANCE

Health-0

Flammability-0

Reactivity-0

Exposure-0

Storage-0

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash with mild soap and water.

Internal: Give large quantities of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Non flammable solid.

NFPA CODE

None established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area. Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Organic Miscellaneous; or Organic #2 with alcohols, glycols, sugars, amines, amides, imines, and imides. Store in a cool, dry place.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron.

Section 9 — Physical and Chemical Properties

White amorphous powder. Odorless.
Solubility: Hot water.
Melting Point: 256-258 C (dec)

Section 10 — Stability and Reactivity

Avoid contact with strong oxidizers.
Shelf Life: Indefinite, if kept dry.

Section 11 — Toxicological Information

Acute effects: Nuisance dust, an allergen	ORL-RAT LD50: N.A.
Chronic effects: N.A.	IHL-RAT LC50: N.A.
Target organs: N.A.	SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.
Flinn Suggested Disposal Method #26a is one option.

Section 14 — Transport Information

Shipping Name: Not regulated
Hazard Class: N/A
UN Number: N/A

N/A = Not applicable

Section 15 — Regulatory Information

TSCA-listed, EINECS-listed (232-686-4).

Section 16 — Other Information

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals. This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

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MSDS Number: **S6506** * * * * * *Effective Date: 08/10/04* * * * * * *Supersedes: 11/02/01*



Material Safety Data Sheet

From: Mallinckrodt Baker, Inc.
222 Red School Lane
Phillipsburg, NJ 08865



24 Hour Emergency Telephone: 908-859-2151
CHEMTREC: 1-800-424-9300

National Response in Canada
CANUTEC: 613-996-6666

Outside U.S. and Canada
Chemtrec: 703-527-3887

NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

STARCH SOLUBLE

1. Product Identification

Synonyms: Amglogen; Amylodextrin; Potato starch

CAS No.: 9005-84-9

Molecular Weight: Not applicable to mixtures.

Chemical Formula: (C₆H₁₀O₅)_x

Product Codes:

J.T. Baker: 4006, 4010

Mallinckrodt: 8188

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Starch Soluble	9005-84-9	90 - 100%	Yes

3. Hazards Identification

Emergency Overview

As part of good industrial and personal hygiene and safety procedure, avoid all unnecessary exposure to the chemical substance and ensure prompt removal from skin, eyes and clothing.

J.T. Baker SAF-T-DATA^(tm) Ratings (Provided here for your convenience)

Health Rating: 0 - None

Flammability Rating: 1 - Slight

Reactivity Rating: 0 - None

Contact Rating: 1 - Slight

Lab Protective Equip: GOGGLES; LAB COAT

Storage Color Code: Orange (General Storage)

Potential Health Effects

Inhalation:

Symptoms similar to those caused by nuisance dust; coughing, sneezing.

Ingestion:

Not expected to be a health hazard.

Skin Contact:

No adverse effects expected.

Eye Contact:

No adverse effects expected but dust may cause mechanical irritation.

Chronic Exposure:

No adverse effects expected.

Aggravation of Pre-existing Conditions:

Persons with respiratory impairment may be sensitive to starch dust.

4. First Aid Measures

Inhalation:

Remove to fresh air. Get medical attention for any breathing difficulty.

Ingestion:

If large amounts were swallowed, give water to drink and get medical advice.

Skin Contact:

Wash exposed area with soap and water. Get medical advice if irritation develops.

Eye Contact:

Wash thoroughly with running water. Get medical advice if irritation develops.

5. Fire Fighting Measures

Fire:

Autoignition temperature: > 380C (> 716F)

Combustible solid.

Minimum ignition energy > 30 m (Depends on particle size, moisture content, etc.) Contact with strong oxidizers may cause fire.

Explosion:

Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Minimum ignition temperature, cloud: 430C (806F).

Fire Extinguishing Media:

If involved in a fire, use water spray.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

Remove all sources of ignition. Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Clean up spills in a manner that does not disperse dust into the air. Use non-sparking tools and equipment. Reduce airborne dust and prevent scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container.

7. Handling and Storage

Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product. Keep in a tightly closed container. Protect from physical damage. Store in a cool, dry, ventilated area away from sources of heat, moisture and incompatibilities.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

-OSHA Permissible Exposure Limit (PEL):

15 mg/m³ total dust, 5 mg/m³ respirable fraction

-ACGIH Threshold Limit Value (TLV):

10 mg/m³ total dust containing no asbestos and < 1% crystalline silica

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

If the exposure limit is exceeded and engineering controls are not feasible, a half facepiece particulate respirator (NIOSH type N95 or better filters) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece particulate respirator (NIOSH type N100 filters) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear protective gloves and clean body-covering clothing.

Eye Protection:

Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:

White, amorphous powder or granules.

Odor:

Slight characteristic odor.

Solubility:

Dispersible in hot water.

Specific Gravity:

ca. 1.5

pH:

No information found.

% Volatiles by volume @ 21C (70F):

0

Boiling Point:

Not applicable.

Melting Point:

No information found.

Vapor Density (Air=1):

No information found.

Vapor Pressure (mm Hg):

No information found.

Evaporation Rate (BuAc=1):

No information found.

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

Heavy, black acrid smoke.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Strong oxidizers.

Conditions to Avoid:

Heat, flames, ignition sources and incompatibles.

11. Toxicological Information

No LD50/LC50 information found relating to normal routes of occupational exposure.

-----\Cancer Lists\-----			
Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Starch Soluble (9005-84-9)	No	No	None

12. Ecological Information

Environmental Fate:

No information found.

Environmental Toxicity:

No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Not regulated.

15. Regulatory Information

```

-----\Chemical Inventory Status - Part 1\-----
Ingredient                                     TSCA  EC   Japan  Australia
-----
Starch Soluble (9005-84-9)                   Yes  Yes  No     Yes
    
```

```

-----\Chemical Inventory Status - Part 2\-----
Ingredient                                     Korea DSL  NDSL  Phil.
-----
Starch Soluble (9005-84-9)                   Yes  Yes  No     Yes
    
```

```

-----\Federal, State & International Regulations - Part 1\-----
Ingredient                                     -SARA 302-  -SARA 313-
RQ  TPQ  List  Chemical Catg.
-----
Starch Soluble (9005-84-9)                   No   No   No     No
    
```

```

-----\Federal, State & International Regulations - Part 2\-----
Ingredient                                     CERCLA  -RCRA-  -TSCA-
                                     CERCLA  261.33  8(d)
-----
Starch Soluble (9005-84-9)                   No      No      No
    
```

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
 SARA 311/312: Acute: Yes Chronic: No Fire: No Pressure: No
 Reactivity: No (Pure / Solid)

Australian Hazchem Code: None allocated.

Poison Schedule: None allocated.

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: **0** Flammability: **2** Reactivity: **0**

Label Hazard Warning:

As part of good industrial and personal hygiene and safety procedure, avoid all unnecessary exposure to the chemical substance and ensure prompt removal from skin, eyes and clothing.

Label Precautions:

None.

Label First Aid:

Not applicable.

Product Use:

Laboratory Reagent.

Revision Information:

No Changes.


Disclaimer:

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Prepared by: Environmental Health & Safety

Phone Number: (314) 654-1600 (U.S.A.)

SECTION I NAME 24 HOUR EMERGENCY ASSISTANCE

Product	Starch, 5% Aqueous Solution	416-984-3000  HAZARD RATING LEAST SLIGHT MODERATE HIGH EXTREME 0 1 2 3 4 WHMIS 0 1 2 3 4
Chemical Synonyms	Starch, 5% Water Solution	
Formula	Mixture.	
CAS No.	Mixture.	

SECTION II DANGEROUS INGREDIENTS

Name	%	TLV Units
Soluble starch: CAS # 9005-84-9	5%	N/A
Sodium benzoate: CAS # 532-32-1	0.1%	N/A
Water: CAS # 7732-18-5	94.9%	N/A

CAUTION!

SECTION III PHYSICAL DATA

Melting Point (°C)	Freezes @ ~ 0 °C	Specific Gravity (H ₂ O = 1)	~ 1.0
Boiling Point (°C)	~ 100°C	Percent Volatile by Volume (%)	94.9%
Vapor Pressure (mm Hg)	14 (water)	Evaporation Rate (Water = 1)	< 1
Vapor Density (Air=1)	0.7 (water)		
Solubility in Water	Complete.		
Appearance & Odor	Clear liquid; no odor.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash point	Not flammable.	Flammable Limits in Air % by Volume	N/A	Lower	Upper
Firefighting Procedures	Use dry chemical, CO ₂ , alcohol foam, or water spray. In fire conditions, fire-fighters should wear an appropriate mask or a self-containing breathing apparatus.				

Flammability and Explosion Hazards

In fire conditions, water may evaporate from this solution which may cause hazardous decomposition products to be formed as dust or fume.

TDG	Not a TDG controlled material.
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The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. For laboratory use only. Not for drug, food or household use. Keep out of reach of children. Printed on recycled paper.

SECTION V REACTIVITY DATA

Chemical Stability	Yes	X	If no. under what conditions?
	No		
Incompatible with Other products	Yes	X	Strong oxidizers.
	No		
Hazardous Decomposition Products	Carbon oxides.		
Reactive under what conditions	Excessive temperature may cause evaporation.		

SECTION VI TOXICOLOGICAL PROPERTIES

Route of Entry	Inhalation. Ingestion.
TLV	There are no TWA established by ACGIH 2001 for this mixture.
Toxicity for animals	Not available.
Chronic effects on humans	There are no known effects from chronic exposure to this product. Target organs: None known.
Acute effects on humans	Contact may cause irritation to the skin and eyes.

SECTION VII PREVENTIVE MEASURES

Waste Disposal	Discharge, treatment, or disposal may be subject to local laws. Consult your local or regional authorities.
Storage	Keep container in a cool, well ventilated place. Keep away from incompatible materials.
Precautions	Avoid contact with skin and eyes. Do not breathe vapors or spray. Use with adequate ventilation. Do not ingest. If ingested, seek immediate medical attention.
Spill or leak	Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. Wash spill area with soap and water.
Protective Clothing	Splash goggles, lab coat, vapor respirator, gloves.

SECTION VIII FIRST AID MEASURES

Specific first aid measures	Ingestion: Call physician or Poison Control Center immediately. Induce vomiting only if advised by the appropriate medical personnel. Eye contact: Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek medical attention. Skin contact: Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Inhalation: Move victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Allow victim to rest in a well ventilated area. Seek immediate medical attention.
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SECTION IX PREPARATION OF THE MSDS

Rev. No.	2	Date	October 4, 2002	Approved	Michael Raszeja
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SECTION I Identification

Produit	Amidon, solution de l'eau 5%
Synonymes	Amidon, solution de l'eau 5%
Formule	Mélange.
# CAS	Mélange.

Telephone D'urgence

416-984-3000

NFPA



Santé	0
Flammabilité	0
Reactivité	0

Niveau de risque

Minime	Légère	Modéré	Sérieux	Extrême
0	1	2	3	4

WHMIS

SECTION II Ingrédients Dangereux

Nom	%	TWA
Amidon soluble: CAS # 9005-84-9	5%	Sans objet.
Benzoate de sodium: CAS # 532-32-1	0,1%	Sans objet.
Eau: CAS # 7732-18-5	94,9%	Sans objet.

ATTENTION!

SECTION III Caractéristiques Physiques

Point de fusion (°C)	Gele à ~ 0 °C	Gravité spécifique (Eau = 1)	~ 1,0
Point d'ébullition (°C)	~ 100°C	Volatilité % par volume	94,9%
Tension de vapeur (mm Hg)	14 (eau)	Taux d'évaporation (Eau = 1)	< 1
Densité de la vapeur (Air=1)	0,7 (eau)		
Solubilité	Complet.		
Odeur et apparence	Liquide incolore; sans odeur.		

SECTION IV Risques D'incendie ou D'explosion

Point d'éclair	Ininflammable.	Limites d'inflammabilité % par volume	Sans objet.	Seuil minimal	Seuil maximal
Moyens d'extinction	Utiliser des poudres chimiques sèches, du CO ₂ , une mousse d'alcool ou de l'eau pulvérisée. En cas de feu, sapeur-pompier devra porter en masque adéquate ou un respirateur autonome.				

Inflammabilité et risques d'explosion

En états du feu, l'eau peut s'évaporer de cette solution, qui peut causer les produits dangereux de décomposition d'être formée comme poussière ou vapeur.

TMD Substance non réglementée par le TMD.

Au meilleur de nos connaissances, l'information contenue dans ce document est exacte. Toutefois, ni le fournisseur ci-haut mentionné ni aucune de ses succursales ne peut assumer quelque responsabilité que ce soit en ce qui a trait à l'exactitude ou à l'état complet de l'information contenue dans ce document. La détermination finale de la convenance de tout matériel ou produit est la responsabilité exclusive de l'utilisateur. Tous les matériaux ou produits peuvent présenter certains risques et devraient être utilisés avec prudence. Bien que certains risques soient décrits dans ce document, nous ne pouvons garantir que ce sont les seuls risques qui existent.

SECTION V Données sur la Réactivité

SS0945

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Chimique	oui	X	Si non, dans quelles condition?
Stabilité	non		
Incompatibilité avec d'autres produits	oui	X	Comburant forte.
Produits de décomposition dangereux	non		
Conditions de Réactivité	Température excessif peut causer de l'évaporation.		

SECTION VI Propriétés Toxicologiques

Voies d'absorption	Inhalation. Ingestion.
LMP	Il n'y a aucune TLV établie par ACGIH 2001 pour ce mélange.
Toxicité pour les animaux	N'est pas à notre disposition.
Effets chroniques sur les humains	Il n'y a aucun effet connu dû exposition chronique à ce produit. On ne connaît aucun organe de cible.
Effets aiguë sur les humains	Le contact peut causer une irritation de la peau et des yeux.

SECTION VII Mesures Préventives

Élimination des résidus	Consulter vos autorités locales ou régionales.
Entreposage	Conservé le récipient dans un endroit frais et bien aéré. Conservé à l'écart des matières incompatibles.
Précautions	Éviter tout contact avec la peau et les yeux. Ne pas inhaler les vapeur ou aérosols. Utilisez la ventilation adéquate. Ne pas ingérer. En cas d'ingestion il faut obtenir immédiatement de l'aide médicale.
Déversement ou fuite	Diluer avec de l'eau et absorber avec un balai ou avec une substance sèche inerte et mettre dans un contenant de récupération approprié. Bien laver la surface où le solide était répandu avec du savon et de l'eau.
Vêtements de protection	Lunettes anti-éclaboussures, blouse de laboratoire (sarrau), respirateur anti-vapeurs, gants.

SECTION VIII Premiers Soins

Premier Soins Particuliers à Administrer	Ingestion: Consulter un médecin ou le centre de poison commande immédiatement. Induisez le vomissement seulement s'informé par le personnel médical approprié. Contact oculaire: Vérifier si la victime porte des verres de contact et dans ce cas lui les enlever. Rincer les yeux immédiatement à l'eau courante pendant au moins 15 minutes en gardant les paupières ouvertes. Obtenir de l'aide médicale. Contact cutané: Laver doucement et entièrement la peau contaminée à l'eau courante avec un savon doux et non-abrasif. Inhalation: Sortir la victime à l'air frais. Si elle ne respire plus il faut lui donner de la respiration artificielle. Si la respiration est difficile, donnez l'oxygène. Assurez-vous que la victime se repose dans un endroit bien aéré. Obtenir immédiatement de l'aide médicale.
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SECTION IX Renseignements sur la Préparation de la FS

Rev. 2 Date 4 octobre, 2002 Vérifié par Michael Raszeja



MATERIAL SAFETY DATA SHEET

PRODUCT TRADE NAME:

**HOMAX PRODUCTS, INC.
STEEL WOOL**

SECTION I - MANUFACTURER IDENTIFICATION

MANUFACTURER'S NAME:
RHODES AMERICAN
1540 E. DUNDEE RD SUITE 210
PALATINE, IL 60623

24 HOUR EMERGENCY PHONE NUMBER:
CHEMTREC 1-800-424-9300
INFORMATION PHONE NUMBER: 1-800-729-9029
DATE OF PREPARATION: 06/30/03

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

NON HAZARDOUS INGREDIENTS CAS #	STEEL NIOSH (RTECS)	100%		
7439-89-6	N06925000		Fe - 98%	Si - .35%
7440-44-0	FF580000		C - .7%-.14%	
7439-96-5	009275000		Mn - .95%MAX. P - .08% MAX. S - .05% MAX.	

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

APPEARANCE AND ODOR: GRAY FINE STEEL WOOL FIBER, NO ODOR
BOILING POINT: 2750 DEGREES C
VAPOR PRESSURE (MMHG/70F) N/A
MELTING POINT: 1535 DEGREES C
VAPOR DENSITY (AIR =1) N/A
SPECIFIC GRAVITY (WATER=1) 7.8
EVAPORATION RATE N/A
SOLUBILITY IN WATER NOT SOLUBLE

SECTION IV - FIRE AND EXPLOSION DATA

FLASH POINT (METHOD USED): 250 DEGREES C
LEL: N/A UEL: N/A
N/A
EXTINGUISHING MEDIA: WATER/CARBON DIOXIDE
SPECIAL FIRE FIGHTING WEAR NIOSH/MSHA APPROVED SCBA AND FULL PROTECTIVE EQUIPMENT

PROCEDURES:
UNUSUAL FIRE AND EXPLOSION AVOID CONTACT WITH INCOMPATIBLE MATERIAL.
HAZARDS:

SECTION V – REACTIVITY DATA

STABILITY:

MATERIAL IS STABLE.

INCOMPATIBILITY (MATERIALS TO AVOID):

AVOID CONTACT WITH OPEN FLAMES & ELECTRICITY.

HAZARDOUS DECOMPOSITION PRODUCTS:

HYDROGEN IS FORMED WHEN IN CONTACT WITH MINERAL ACIDS.

HAZARDOUS POLYMERIZATION:

NO

CONDITIONS TO AVOID: (POLY)

NOT RELEVANT

SECTION VI – HEALTH HAZARD DATA

LD50-LC50 MIXTURE: NOT GIVEN FOR PRODUCT AS A WHOLE

ROUTE OF ENTRY: INHALATION: YES SKIN: NO INGESTION: YES

HEALTH HAZARDS ACUTE & CHRONIC: NONE APPLICABLE

CARCINOGENICITY: NTP: NO IARC: NO OSHA: NO

EXPLANATION OF CARCINOGENICITY: CONTAINS NO INGREDIENTS THAT ARE CARCINOGENS OR SUSPECTED CARCINOGENS

SIGNS/SYMPTOMS OF EXPOSURE: EYE IRRITATION

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: UPPER RESPIRATORY DISEASE.

EMERGENCY/FIRST AID PROCEDURES: IRRIGATE EYES-CALL PHYSICIAN IMMEDIATELY

SECTION VII – PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN INCASE MATERIAL IS RELEASED OR SPILLED:

SWEEP UP MATERIAL FOR DISPOSAL. GLOVE RECOMMENDED.

WASTE DISPOSAL METHOD:

GENERAL BULD DISPOSAL METHOD.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

USE PROTECTIVE GLOVES. STORE AWAY FROM OXIDIZING AGENTS & MINERAL ACIDS.

NEUTRALIZING AGENTS:

NONE

OTHER PRECAUTIONS:

NONE

SECTION VIII – CONTROL MEASURES

RESPIRATORY PROTECTION: NIOSH APPROVED DUST MASK.

VENTILATION: LOCAL EXHAUST

PROTECTIVE GLOVES: WORK GLOVES RESISTANT TO ABRASION.

EYE PROTECTION: GOGGLES RECOMMENDED

OTHER PROTECTIVE CLOTHING & EQUIPMENT: NONE

WORK HYGENIC PRACTICES: WASH WITH SOAP AND WATER AFTER HANDLING PRODUCT AND BEFORE EATING & DRINKING

SUPPLIER SAFETY & HEALTH DATA: NONE

SECTION VIII- TRANSPORTATION DATA

DOT PSN CODE: NONE DOT PROPER SHIPPING NAME: NOT REGULATED
IMO PSN CODE: NONE IMO PROPER SHIPPING NAME: NOT REGULATED
IATA PSN CODE: NONE IATA PROPER SHIPPING NAME: NOT REGULATED
AFI PSN CODE: NONE AFI PROPER SHIPPING NAME: NOT REGULATED

DISPOSAL DATA: NONE
LABEL DATA: LABEL REQUIRED: YES
MFR LABEL: NONE LABEL STATUS: F
COMMON NAME: STEEL WOOL FIBERS SIGNAL WORD: CAUTION!
CHRONIC HAZARD: NO
ACUTE HEALTH HAZARD: NONE
CONTACT HAZARD: NONE
FIRE HAZARD: SLIGHT
REACTIVITY HAZARD: SLIGHT



Material Safety Data Sheet

SECTION 1: Chemical Product and Company Identification

Manufacturer: Cumberland Swan
 One Swan Drive
 Smyrna, TN 37167

Date: November 1999

Product: Mineral Oil

Telephone: (615) 459-8900

24hr Emergency: (615) 459-8900 ext. 527

SECTION 2: Composition / Information on Ingredients

Name: Mineral Oil, USP

SECTION 3: Hazards Identification

Potential Routes of Exposure: Ingestion, inhalation, dermal contact, eye contact

Target Organs: None identified

Symptoms of Overexposure:

Inhalation: Not identified

Ingestion: This product is relatively non-toxic unless aspiration occurs.
 This product has laxative properties and may result in abdominal cramping and diarrhea.

Dermal Contact: Not expected to create any skin irritation upon ;direct single or repeated and prolonged contact.

Acute Effects: Shortness of breath and coughing.

Chronic Effects: On rare occasions, prolonged exposure to oil mist poses a risk of pulmonary disease such as chronic inflammation.

Aspiration may lead to chemical pneumonitis.

HMIS: H=0, F=1, R=0 See Section 8 for PPE information

SECTION 4: First Aid Measures

Eye: Flush eyes with copious amount of water for at least 15 minutes.

Skin: If hot, submerge clothing/skin in cold water. Seek medical attention if irritation persists.

Ingestion: Seek medical attention or contact the poison control center.

Inhalation: Do not induce vomiting. If vomiting occurs, lower head below knees to avoid aspiration.

SECTION 5: Fire Fighting Measures

- Extinguishing Media:** Use water fog, alcohol foam, dry chemical or CO₂
- Unusual Fire or Explosion Hazards:** Containers exposed to intense heat from fires should be cooled with large amounts of water to prevent buildup of internal pressure due to vapor generation which could result in container rupture.
- Recommendations:** Clear area of unprotected personnel. Wear complete turnout gear. Cool containers exposed to fire with water.
Use of water directly could cause frothing

SECTION 6: Accidental Release Measures

- Large Spills:** Eliminate all ignition sources. Contain source of spill. Dike or otherwise confine spilled product. Uncontrolled releases to air, land, or water may be reportable to the National Response Center (1-800-424-8802).
- Small Spills:** Wash with water or absorb spill and dispose of absorbent material properly.

SECTION 7: Handling and Storage

- Storage Requirements:** Store in tightly closed containers in a cool, dry area away from heat and other possible ignition sources.
- Handling precautions:** Maintain appropriate class of fire extinguishers (B) nearby in case of fire.

SECTION 8: Exposure Controls / Personal Protection

OSHA PEL = 5 mg/m³ OSHA STEL = 10mg/m³ (oil mist)

Recommended Engineering Controls: Use ventilation equipment to maintain the PEL

Recommended Admin Controls: Train employees on the hazards of oils

PPE: Goggles, gloves when handling large amounts

Recommended Hygiene Practices: Clean PPE and work clothing contaminated with mineral oil prior to reuse. After working with this product, be sure to wash before eating, smoking, drinking, or applying cosmetics.

SECTION 9: Physical and Chemical Properties

Appearance:	Clear oily liquid	Freezing Point:	No Data	Autoignition:	N/A
Odor:	"Oily"	Water Solubility:	Negligible	LEL:	N/A
Odor Threshold:	Not Available	Molecular Weight:	N/A	UEL:	N/A
Vapor Pressure:	<1 mmHg @ 70° F	Specific Gravity:	0.875	Vapor Density:	N/A
Boiling Point:	650° F	Flash Point:	435° F TAG		

SECTION 10: Stability and Reactivity

- Stability:** Stable
- Polymerization:** Will not occur
- Conditions to avoid:** Heat, sparks, and open flame
- Hazardous Products of Decomposition:** CO and unidentified organic compounds may be formed

SECTION 11: Toxicological Information

LD50: >5 g/kg LC50: N/A LDLO: N/A
Carcinogenicity: Not identified as a carcinogen by OSHA, IARC, or NTP
Mutagenicity: Not Indicated
Reproductive Effects: Not Indicated

SECTION 12: Ecological Information

Ecotoxicity: N/A Environmental Fate: N/A Soil Absorption/Mobility: Mildly
Mobile Environmental Degradation: No Data

SECTION 13: Disposal Considerations

Disposal: Contact your supplier or a licensed contractor for detailed recommendations.
Disposal Regulatory Requirements: Follow applicable Federal, state and local regulations

SECTION 14: Transport Information

Shipping Name: Mineral Oil, Non Hazardous

SECTION 15: Regulatory Information

RCRA Hazardous Waste Number/Classification: N/A
CERCLA Substance: N/A
CERCLA Reportable Quantity: 10,000 lbs (Default)
SARA 311/312 Codes: N/A
SARA Toxic Chemical: Contains Materials listed on TSCA inventory

SECTION 16: Other Information

Prepared by: Cumberland Swan

Sources of Information: 29CFR1910.1000; NIOSH Pocket Guide to Chemical Hazards (1993);
Occupational Health Guidelines for Chemical Hazards; NFPA Guide to
Hazardous Materials - 10th Edition.

Disclaimer: While reasonable care has been taken to ensure the accuracy and completeness of the information regarding the material described herein, it is the purchaser's responsibility to ensure the suitability of such information as it applies to the purchaser's intended use of the material.

Section 1 — Chemical Product and Company Identification

Sulfur

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Sulfur

CAS#: 7704-34-9

Section 3 — Hazards Identification

Yellow crystals or powder. Faint odor of rotten eggs.

Slightly toxic by ingestion and inhalation. Body tissue irritant. Avoid all body tissue contact.

FLINN AT-A-GLANCE

Health-1
Flammability-1
Reactivity-0
Exposure-1
Storage-0

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash continuously with fresh water for 15 minutes.

Internal: Induce vomiting. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Combustible solid.

Fire and explosion risk in finely divided form. When heated, it will burn and emit highly toxic SO_x fumes. Flash Point: 405 F; Autoignition Temperature: 450 F.

Fire Fighting Instructions: Use triclass, dry chemical fire extinguisher. Firefighters should wear PPE and SCBA with full facepiece operated in positive pressure mode.

NFPA CODE

H-2
F-1
R-0

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area. Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Inorganic #10. Store with sulfur and phosphorus.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron. Use exhaust ventilation to keep airborne concentrations low.

Section 9 — Physical and Chemical Properties

Yellow crystals or powder. Faint odor of rotten eggs.
Solubility: Slightly in alcohol and other organic solvents.
Not in water.
Formula: S
Formula Weight: 32.06

Specific Gravity: 2.06
Melting Point: 119 C
Boiling Point: 444.6 C
Vapor Pressure: 10 mm (246 C)
Vapor Density: 8.9

Section 10 — Stability and Reactivity

Avoid contact with oxidizers and moisture.
Shelf Life: Indefinite.

Section 11 — Toxicological Information

Acute effects: Irritant
Chronic effects: N.A.
Target organs: N.A.

ORL-RAT LD50: 5 gm/kg
IHL-RAT LC50: N.A.
EYE-HUM: 8 ppm

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Aquatic toxicity: TLm96: 1000 ppm

Section 13 — Disposal Considerations

Please consult with state and local regulations.
Flinn Suggested Disposal Method #26a is one option.

Section 14 — Transport Information

Shipping Name: Sulfur
Hazard Class: 9, Miscellaneous Hazardous
UN Number: NA1350

N/A = Not applicable

Section 15 — Regulatory Information

TSCA-listed, EINECS-listed (231-722-6).

Section 16 — Other Information

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals. This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

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Flinn MSDS Prevent Chemical Accidents

flinn@flinnsci.com www.flinnsci.com
P.O. Box 219 Batavia IL 60510
(800) 452-1261 Fax (866) 452-1436

Section 1 — Chemical Product and Company Identification

Super-Sorb

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Super-sorb

Synonym: oil-dri, calcium aluminum silicate

CAS#: None established

Section 3 — Hazards Identification

Tan, odorless granules.

Dust may be irritating. Substance not considered hazardous. However, not all health aspects of this substance have been thoroughly investigated.

FLINN AT-A-GLANCE

Health-0

Flammability-0

Reactivity-0

Exposure-0

Storage-0

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash continuously with fresh water for 15 minutes.

Internal: Give large quantities of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Non flammable solid.

NFPA CODE

None established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area. Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Inorganic Miscellaneous or with spill control materials.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron.

Section 9 — Physical and Chemical Properties

Tan, odorless granules.
Solubility: Insoluble to slightly soluble in water.

Specific Gravity: 2.20

Section 10 — Stability and Reactivity

If you are absorbing a spill this material will not neutralize the spill. It only absorbs the spill. All hazards remain. Avoid contact with vegetable oil and turpentine.

Shelf Life: Good.

Section 11 — Toxicological Information

Acute effects: N.A.
Chronic effects: N.A.
Target organs: N.A.

ORL-RAT LD50: N.A.
IHL-RAT LC50: N.A.
SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.
Flinn Suggested Disposal Method #26a is one option.

Section 14 — Transport Information

Shipping Name: Not regulated
Hazard Class: N/A
UN Number: N/A

N/A = Not applicable

Section 15 — Regulatory Information

Not listed.

Section 16 — Other Information

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(800) 452-1261 Fax (866) 452-1436

NO MSDS FOR THIS PRODUCT

For some products, a manufacturer/supplier is not required to provide the Material Safety Data Sheet (MSDS). Examples of products that generally do not have MSDS include:

- Tobacco or tobacco products
- Wood Products
- Certain Drugs
- Food Products
- Consumer products

This item does not have a MSDS. Fuss & O'Neill EnviroScience, (formerly EnviroScience Consultants LLC) requested a MSDS for this item, but was notified by the manufacturer/supplier that a MSDS was not required by Federal regulations.

Information concerning the types of products that are exempt from OSHS Hazard Communication standard may be found in Title 29 of the Code of Federal Regulations, Section 1910.1200 or from your local U. S. Department of Labor or State occupational safety office.

Section 1 — Chemical Product and Company Identification

Thiourea

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Thiourea

Synonym: thiocarbamide

CAS#: 62-56-6

Section 3 — Hazards Identification

White, lustrous crystals. Odorless.

Highly toxic by ingestion. Possible carcinogen. Body tissue irritant. Chronic exposure may result in hepatic tumors. Avoid all body tissue contact.

FLINN AT-A-GLANCE

Health-3
Flammability-1
Reactivity-1
Exposure-3
Storage-3

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash continuously with fresh water for 15 minutes.

Internal: Rinse out mouth, give 1 to 2 cups of water or milk, induce vomiting. After vomiting, give mixture of 2 Tbs. of activated charcoal mixed with one cup of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Combustible solid.

When heated to decomposition, emits toxic fumes of SO_x and NO_x.

Fire Fighting Instructions: Use triclass, dry chemical fire extinguisher. Firefighters should wear PPE and SCBA with full facepiece operated in positive pressure mode.

NFPA CODE

None established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area. Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Organic #2. Store with alcohols, glycols, amines and amides.

Store in a cool, dry place. Store in a Flinn Chem-Saf bag, and lock up in a poison cabinet. Use and dispense in a hood.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron. Use exhaust ventilation to keep airborne concentrations low.

Section 9 — Physical and Chemical Properties

White, lustrous crystals. Odorless.
Solubility: Cold water, ammonium thiocyanate solution and alcohol.
Formula: NH₂CSNH₂
Formula Weight: 76.12

Specific Gravity: 1.406
Melting Point: 176-178 C

Section 10 — Stability and Reactivity

Avoid contact with strong oxidizers and acids. May react violently with acrolein.
Shelf Life: Indefinite.

Section 11 — Toxicological Information

Acute effects: Toxic, irritant
Chronic effects: Possible carcinogen, mutagen
Target organs: Liver, thyroid

ORL-RAT LD50: 125 mg/kg
IHL-RAT LC50: N.A.
SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.
Flinn Suggested Disposal Method #13 is one option.

Section 14 — Transport Information

Shipping Name: Not regulated
Hazard Class: N/A
UN Number: N/A

N/A = Not applicable

Section 15 — Regulatory Information

TSCA-listed, EINECS-listed (200-543-5), RCRA code U219.

Section 16 — Other Information

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals. This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

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Material Safety Data Sheet

SECTION 1: Chemical Product and Company Identification

Manufacturer: Cumberland Swan
One Swan Drive
Smyrna, TN 37167

Date: November 1999

Product: Iodine Tincture

Telephone: (615) 459-8900

24hr Emergency: (615) 459-8900 ext. 5270

SECTION 2: Composition / Information on Ingredients

Name:	Ethyl Alcohol	CAS#:	64-17-5
	Iodine USP	CAS#:	7553-56-2
	Potassium Iodide USP	CAS#:	7681-11-0
	Water		

SECTION 3: Hazards Identification

Prolonged exposure to elevated concentrations of vapors may result in headaches, tremors, and fatigue.

Potential Routes of Exposure: Ingestion, inhalation, dermal contact, eye contact

Target Organs: Eyes, skin, respiratory system

Symptoms of Overexposure:

Inhalation: Irritation to upper respiratory tract and lungs. May cause lung injury.

Ingestion: Single dose oral toxicity is high. May cause burns of mouth and throat.

Dermal Contact: Light irritation. Prolonged exposure could cause burn and staining of skin.

Acute Effects: Not identified.

Chronic Effects: Exposure to toxic amounts may cause lung, thyroid and possibly blood effects.

HMIS: H-3, F=3, R=2 See Section 8 for PPE information

SECTION 4: First Aid Measures

Eye: Flush eyes with copious amount of water for at least 15 minutes.
Obtain medical attention immediately.

Skin: Flush with water. If irritation persists, seek medical attention.

Ingestion: Seek medical attention or contact the poison control center.
Do Not induce vomiting.

Inhalation: Remove victim to fresh air and provided oxygen if breathing is difficult. Seek medical attention if breathing continues to be difficult.

SECTION 5: Fire Fighting Measures

- Extinguishing Media: Use water fog, alcohol foam, dry chemical or CO₂
- Unusual Fire or Explosion Hazards: Containers exposed to intense heat from fires should be cooled with large amounts of water to prevent buildup of internal pressure due to vapor generation which could result in container rupture.
- Recommendations: Clear area of unprotected personnel. Wear complete turnout gear. Cool containers exposed to fire with water.

SECTION 6: Accidental Release Measures

- Large Spills: Eliminate all ignition sources. Equipment must be grounded to prevent sparking. Contain source of spill. Dike or otherwise confine spilled product. Uncontrolled releases to air, land, or water may be reportable to the National Response Center (1-800-424-8802).
- Small Spills: Wash with water.

SECTION 7: Handling and Storage

- Storage Requirements: Store in tightly closed containers in a cool, dry area away from heat and other possible ignition sources.
- Handling precautions: Maintain appropriate class of fire extinguishers nearby in case of fire.

SECTION 8: Exposure Controls / Personal Protection

OSHA PEL = 1000ppm OSHA STEL=N/A IDLH=12,000ppm

Recommended Engineering Controls: Use explosion-proof ventilation equipment as necessary to maintain airborne concentrations below the PEL. Ground all containers to prevent static sparks during fluid transfers.

Recommended Admin Controls: Train employees on the hazards of Alcohols/Iodines

PPE: Goggles, gloves

Recommended Hygiene Practices: Clean PPE and work clothing contaminated with Iodine prior to reuse... After working with this product, be sure to wash before eating, smoking, drinking, or applying cosmetics.

SECTION 9: Physical and Chemical Properties

Appearance: Reddish, Brown liquid	Freezing Point: N/A	Autoignition: N/A
Odor: Iodine odor	Water Solubility: Miscible	LEL: N/A
Odor Threshold: N/A	Molecular Weight: N/A	UEL: N/A
Vapor Pressure: 40 @ 19°C	Specific Gravity: .970	Vapor Density: N/A
Boiling Point: 173°C	Flash Point: 80.6 °F	

SECTION 10: Stability and Reactivity

Stability: Stable
 Polymerization: Will not occur
 Conditions to avoid: Heat, sparks, and open flame
 Hazardous Products: CO and unidentified organic compounds may be formed of Decomposition

SECTION 11: Toxicological Information

LD50: N/A LC50: N/A LDLO: N/A
 Carcinogenicity: Not identified as a carcinogen by OSHA, IARC, or NTP
 Mutagenicity: Not Indicated
 Reproductive Effects: Not Indicated

SECTION 12: Ecological Information

Ecotoxicity: N/A Environmental Fate: N/A Soil Absorption/Mobility: Highly Mobile
 Environmental Degradation: Not Identified

SECTION 13: Disposal Considerations

Disposal: Contact your supplier or a licensed contractor for detailed recommendations.
 Disposal Regulatory Requirements: Follow applicable Federal, state, and local regulations

SECTION 14: Transport Information

Shipping Name: Consumer Commodity ORM-D

SECTION 15: Regulatory Information

RCRA Hazardous Waste Number/Classification: D001
 CERCLA Substance: N/A
 CERCLA Reportable Quantity: 10,000 lbs (Default)
 SARA 311/312 Codes: N/A
 SARA Toxic Chemical: Contains materials listed on TSCA inventory

SECTION 16: Other Information

Prepared by: Cumberland Swan

Sources of Information: 29CFR1910.1000;NIOSH Pocket Guide to Chemical Hazards (1993);Occupational Health Guidelines for Chemical Hazards; NFPA Guide to Hazardous Materials - 10th Edition.

Disclaimer: While reasonable care has been taken to ensure the accuracy and completeness of the information regarding the material described herein, it is the purchaser's responsibility to ensure the suitability of such information as it applies to the purchaser's intended use of the material.



341 Christian Street, Oxford, CT 06478 USA
 Tel: (203) 267-6061 Fax: (203) 267-6065
www.naturalsourcing.com info@naturalsourcing.com

MATERIAL SAFETY DATA SHEET

TURMERIC POWDER

MSDS

1. PRODUCT NAME AND COMPANY IDENTIFICATION

Product Name:	TURMERIC POWDER
Product Use:	Personal Care Formulations
Company Name:	Natural Sourcing
Company Address:	341 Christian Street, Oxford, CT 06478, USA
Date Issued:	1/1/2008
Emergency Telephone Number:	Chemtrec Tel: (800) 262-8200

2. COMPOSITION/INGREDIENT INFORMATION

Ingredients:	Concentration %
Curcuma longa powder	100%
Hazardous Components:	None

3. HAZARDS IDENTIFICATION

Routes of Entry

Eyes:	Mild Irritation may occur
Skin:	No known hazard
Inhalation:	No known hazard
Ingestion:	No known hazard

4. FIRST AID MEASURES

Eyes:	Flush with plenty of water or eye wash solution for 15 minutes. Get medical attention if irritation persists.
Skin:	Due to its use in cosmetics, no adverse effects are expected.

5. FIRE FIGHTING MEASURES

Extinguishing Media:	Water Spray, Foam, Powder and Carbon Dioxide
Special Firefighting Procedures:	N/A
Unusual Fire & Explosion Hazards:	N/A

6. ACCIDENTAL RELEASE MEASURES (STEPS FOR SPILLS)

Precautions:	N/A
Methods for Cleaning Up:	Sweep up or flush with water and dispose of according to local regulations.

7. HANDLING AND STORAGE**Handling**

Safe Handling: Avoid creating dust clouds and breathing of the dust. Powder may stain skin and clothing. Take precaution. Wear gloves and aprons.

Storage

Requirements for Storage Areas and Containers: Keep container closed and protect from humidity.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Eye: Safety glasses may be worn.
Skin/Body: Gloves should be worn.
Respiratory: Not needed under normal conditions of use.
Ventilation: Ensure good ventilation of the work situation.
Other: Evaluate need based on application.
Work/Hygiene Practice: Normal work and hygiene practices

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Powder
Color: Bright yellow
Odor: Characteristic of turmeric

10. STABILITY AND REACTIVITY

Stability: Stable
Incompatibility (Materials to Avoid): N/A
Hazardous Decomposition or Byproducts: N/A
Conditions to Avoid: Avoid contamination of product

11. TOXICOLOGICAL INFORMATION

Toxicity Data: Non toxic

12. ECOLOGICAL INFORMATION

Persistence and Degradability: Easily Degradable

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods: Dispose of according to local, state and federal regulations.

14. TRANSPORT INFORMATION

DOT Classification: Not classified
IATA Classification: Not classified
IMDG: Not classified

15. REGULATORY INFORMATION

No Information

16. ADDITIONAL INFORMATION

This information is provided for documentation purposes only.
This product is not considered hazardous.

The complete range of conditions or methods of use are beyond our control therefore we do not assume any responsibility and expressly disclaim any liability for any use of this product. Information contained herein is believed to be true and accurate however, all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state, and local laws and local regulations remains the responsibility of the user.

This safety sheet cannot cover all possible situations which the user may experience during processing. Each aspect of your operation should be examined to determine if, or where, additional precautions may be necessary. All health and safety information contained in this bulletin should be provided to your employees or customers.

Section 1 — Chemical Product and Company Identification

Vinegar

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Acetic Acid (64-19-7) 4-8%, Water (7732-18-5) 92-96%

CAS#: 64-19-7

Section 3 — Hazards Identification

Clear or brown liquid with strong smell of acetic acid.

Substance not considered hazardous. However, not all health aspects of this substance have been thoroughly investigated. Not for human consumption.

FLINN AT-A-GLANCE

Health-0
Flammability-0
Reactivity-0
Exposure-0
Storage-0

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash continuously with fresh water for 15 minutes.

Internal: Give large quantities of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Non flammable liquid.

NFPA CODE

None established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area and ventilate area. Contain spill with sand or absorbent material; deposit in sealed bag or container. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Organic #1. Store with acids, anhydrides and peracids.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron. Use exhaust ventilation to keep airborne concentrations low.

Section 9 — Physical and Chemical Properties

Clear or brown liquid with strong smell of acetic acid.

Section 10 — Stability and Reactivity

Avoid contact with bases.
Shelf Life: Indefinite.

Section 11 — Toxicological Information

Acute effects: N.A.	ORL-RAT LD50: N.A.
Chronic effects: N.A.	IHL-RAT LC50: N.A.
Target organs: N.A.	SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.
Flinn Suggested Disposal Method #26b is one option.

Section 14 — Transport Information

Shipping Name: Not regulated
Hazard Class: N/A
UN Number: N/A

N/A = Not applicable

Section 15 — Regulatory Information

Not listed.

Section 16 — Other Information

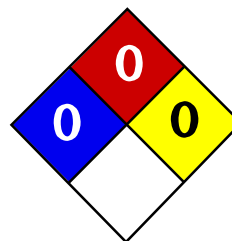
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(800) 452-1261 Fax (866) 452-1436



Health	0
Fire	0
Reactivity	0
Personal Protection	A

Material Safety Data Sheet Water MSDS

Section 1: Chemical Product and Company Identification

Product Name: Water

Catalog Codes: SLW1063

CAS#: 7732-18-5

RTECS: ZC0110000

TSCA: TSCA 8(b) inventory: Water

CI#: Not available.

Synonym: Dihydrogen oxide

Chemical Name: Water

Chemical Formula: H₂O

Contact Information:

Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:
1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Water	7732-18-5	100

Toxicological Data on Ingredients: Not applicable.

Section 3: Hazards Identification

Potential Acute Health Effects:

Non-corrosive for skin. Non-irritant for skin. Non-sensitizer for skin. Non-permeator by skin. Non-irritating to the eyes. Non-hazardous in case of ingestion. Non-hazardous in case of inhalation. Non-irritant for lungs. Non-sensitizer for lungs. Non-corrosive to the eyes. Non-corrosive for lungs.

Potential Chronic Health Effects:

Non-corrosive for skin. Non-irritant for skin. Non-sensitizer for skin. Non-permeator by skin. Non-irritating to the eyes. Non-hazardous in case of ingestion. Non-hazardous in case of inhalation. Non-irritant for lungs. Non-sensitizer for lungs.

CARCINOGENIC EFFECTS: Not available.

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available.

Section 4: First Aid Measures

Eye Contact: Not applicable.

Skin Contact: Not applicable.

Serious Skin Contact: Not available.

Inhalation: Not applicable.

Serious Inhalation: Not available.

Ingestion: Not Applicable

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: Not applicable.

Explosion Hazards in Presence of Various Substances: Not Applicable

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill: Mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.

Large Spill: Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Section 7: Handling and Storage

Precautions: No specific safety phrase has been found applicable for this product.

Storage: Not applicable.

Section 8: Exposure Controls/Personal Protection

Engineering Controls: Not Applicable

Personal Protection: Safety glasses. Lab coat.

Personal Protection in Case of a Large Spill: Not Applicable

Exposure Limits: Not available.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Odorless.

Taste: Not available.

Molecular Weight: 18.02 g/mole

Color: Colorless.

pH (1% soln/water): 7 [Neutral.]

Boiling Point: 100°C (212°F)

Melting Point: Not available.

Critical Temperature: Not available.

Specific Gravity: 1 (Water = 1)

Vapor Pressure: 2.3 kPa (@ 20°C)

Vapor Density: 0.62 (Air = 1)

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: Not applicable

Solubility: Not Applicable

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Not available.

Incompatibility with various substances: Not available.

Corrosivity: Not available.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Eye contact.

Toxicity to Animals:

LD50: [Rat] - Route: oral; Dose: > 90 ml/kg

LC50: Not available.

Chronic Effects on Humans: Not available.

Other Toxic Effects on Humans:

Non-corrosive for skin. Non-irritant for skin. Non-sensitizer for skin. Non-permeator by skin. Non-hazardous in case of ingestion. Non-hazardous in case of inhalation. Non-irritant for lungs. Non-sensitizer for lungs. Non-corrosive to the eyes. Non-corrosive for lungs.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

Section 15: Other Regulatory Information

Federal and State Regulations: TSCA 8(b) inventory: Water

Other Regulations: EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada): Not controlled under WHMIS (Canada).

DSCL (EEC):

This product is not classified according to the EU regulations.
Not applicable.

HMIS (U.S.A.):

Health Hazard: 0

Fire Hazard: 0

Reactivity: 0

Personal Protection: a

National Fire Protection Association (U.S.A.):

Health: 0

Flammability: 0

Reactivity: 0

Specific hazard:

Protective Equipment:

Not applicable.
Lab coat.
Not applicable.
Safety glasses.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

Created: 10/10/2005 08:33 PM

Last Updated: 11/06/2008 12:00 PM

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Section 1 — Chemical Product and Company Identification

Zinc

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

Zinc

CAS#: 7440-66-6

Section 3 — Hazards Identification

Shiny white metal with bluish-gray luster. Forms: granular, mossy dust, metal pieces, foil, sheets, shot, strips. Odorless.

Substance not considered hazardous. However, not all health aspects of this substance have been thoroughly investigated. Inhalation of zinc dust may cause lung irritations. Zinc dust can spontaneously combust when in contact with moisture.

FLINN AT-A-GLANCE

Health-0
Flammability-1
Reactivity-2
Exposure-0
Storage-0

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash continuously with fresh water for 15 minutes.

Internal: Give large quantities of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Non flammable solid.

Finely divided zinc dust is a severe fire hazard. Zinc dust can spontaneously combust when in contact with moisture.

Fire Fighting Instructions: Use triclass, dry chemical fire extinguisher. Firefighters should wear PPE and SCBA with full facepiece operated in positive pressure mode.

NFPA CODE

None established

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area. Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Inorganic #1. Store with metals and metal hydrides.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron.

Section 9 — Physical and Chemical Properties

Shiny white metal with bluish-gray luster. Forms: granular, mossy dust, metal pieces, foil, sheets, shot, strips. Odorless. Solubility: Soluble in acids and alkalis; not water.

Formula: Zn

Formula Weight: 65.37

Specific Gravity: 7.14

Melting Point: 419 C

Boiling Point: 908 C

Section 10 — Stability and Reactivity

Avoid strong acids, strong bases, cadmium, sulfur chlorinated solvents, amines, and carbon disulfide. Avoid any source of flame for zinc dust only! Zinc dust can spontaneously combust when in contact with moisture.

Shelf Life: Indefinite.

Section 11 — Toxicological Information

Acute effects: Dust may cause lung irritations.

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT LD50: N.A.

IHL-RAT LC50: N.A.

SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations.

Flinn Suggested Disposal Method #26a is one option.

Section 14 — Transport Information

Shipping Name: Not regulated

Hazard Class: N/A

UN Number: N/A

N/A = Not applicable

Section 15 — Regulatory Information

TSCA-listed, EINECS-listed (231-175-3).

Section 16 — Other Information

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals. This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

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