



crosscuttingconcepts
empowering the next generation in science education

GHS Safety Data Sheets

The Mystery of Lyle and Louise Drug Testing and Analysis

This document contains GHS safety data sheets for the following kit items:

- **Boric Acid**
- **Cornstarch**
- **Dilute Iodine**
- **Isopropyl Alcohol**
- **Plaster of Paris**
- **Powdered Sugar**
- **Salt**
- **Talcum Powder**

Safety Data Sheet

Crosscutting Concepts, LLC · P.O. Box 349 · Huntington, WV 25708

Phone: 888-221-4344 · Fax: 888-221-4344, Ext. 804

Section 1 - Chemical Product and Company Identification

Name: Boric Acid

Common Synonyms: ortho-Boric acid; boracic acid; Borofax

Molecular Weight: 61.83

Chemical Formula: H₃BO₃

Chemtrec Phone: 800-424-9300

National Response Center (emergency use): 800-424-8802

Product Use: Laboratory Reagent

Section 2 - Hazard Identification

SKIN CORROSION/IRRITANT Category 1

DANGER: Causes severe skin burns and eye damage

Emergency Overview

DANGER! HARMFUL OR FATAL IF SWALLOWED OR INHALED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM, LIVER AND KIDNEYS.

Effects of overexposure:

Inhalation: Causes irritation to the mucous membranes of the respiratory tract. May be absorbed from the mucous membranes, and depending on the amount of exposure could result in the development of nausea, vomiting, diarrhea, drowsiness, rash, headache, fall in body temperature, low blood pressure, renal injury, cyanosis, coma, and death.

Ingestion: Symptoms parallel absorption via inhalation. Adult fatal dose reported at 5 to > 30 grams.

Skin Contact: Causes skin irritation. Not significantly absorbed through the intact skin. Readily absorbed through damaged or burned skin. Symptoms of skin absorption parallel inhalation and ingestion.

Eye Contact: Causes irritation, redness, and pain.

Chronic Exposure: Prolonged absorption causes weight loss, vomiting, diarrhea, skin rash, convulsions and anemia. Liver and particularly the kidneys may be susceptible. Studies of dogs and rats have shown that infertility and damage to testes can result from acute or chronic ingestion of boric acid. Evidence of toxic effects on the human reproductive system is inadequate.

Aggravation of Pre-existing Conditions: Persons with pre-existing skin disorders or eye problems, or impaired liver, kidney or respiratory function may be more susceptible to the effects of the substance.

Section 3 - Composition / Information on Ingredients

<u>Ingredient</u>	<u>CAS No.</u>	<u>Percent</u>
Boric Acid	10043-3503	100%

Section 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: Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person.

Skin Contact: move any contaminated clothing. Wash skin with soap or mild detergent and water for at least 15 minutes. Get medical attention if irritation develops or persists. Wash clothing before re-use.

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

Section 5 - Fire-Fighting Measures

Fire: Not considered to be a fire hazard.

Explosion: May explode on impact if mixed with Potassium
Fire Extinguishing Media: Use any media suitable for surrounding fire.
Special Information: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

Section 6 - Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8.
Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust.

Section 7 - Handling and Storage

Handling Procedures and Equipment: Keep in tightly closed container. Keep cool and dry. Wash hands after handling this material. Avoid contact especially when skin is cut or abraded.
Storage requirements: Keep in a well closed container stored under cold to warm conditions, 2 to 40 C, (36 to 104F). Protect against physical damage. Carbon steel or aluminum containers are suitable for storage. Stainless steel is needed for moist conditions. Use good housekeeping practices to prevent accumulation of dust and follow sound cleaning techniques that will keep airborne particulates at a low level. Containers of this material may be hazardous when empty since they retain product residues (dust, solids).

Section 8 - Exposure Controls / Personal Protection

OSHA Permissible Exposure Limit: None established
ACGIH Threshold Limit Value: None established
Airborne Exposure Limits: None established.
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): For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. 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-face 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.
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.

Section 9 - Physical and Chemical Properties

Appearance: White powder or granules
Odor: No odor
Odor Threshold: N/A
pH: 5.1 in 0.1M aqueous solution
Melting Point: 169C/336F
Boiling Point: No information found (decomposes)
Flash Point: No information found.
Evaporation Rate (BuAc=1): No information found.
Flammability: Nonflammable
Flammability/explosive limits: No information found.
Vapor Pressure (mm Hg): No information found.
Vapor Density (Air=1): No information found.
Relative Density: 1.43
Solubility: 1g/18mL in cold water
Partition Coefficient: No information found.
Auto-ignition Temperature: No information found.

Decomposition Temperature: No information found.
Viscosity: N/A

Section 10 - Stability and Reactivity

Reactivity: No information found.
Stability: Stable under ordinary conditions of use and storage. If moisture is present, boric acid can be corrosive to iron.
Hazardous Reactions: No information found
Conditions to Avoid: Incompatible materials.
Incompatible Materials: Potassium, acetic anhydride, alkalis, carbonates, and hydroxides.
Hazardous Decomposition Products: metaboric acid, pyroboric acid, boric anhydride
Hazardous Polymerization: Will not occur.

Section 11- Toxicological Information

Toxicological Data:
Oral rat LD50: 2660 mg/kg; oral woman LDLo: 200 mg/kg; investigated as a mutagen, tumorigen, reproductive effector.
Reproductive Toxicity: May impair fertility, May cause harm to the unborn child.
DERMAL: No data found
INHALATION: No data found.
IRRITATION: Skin and eyes: slight.
OSHA: Non-carcinogenic
IARC: Possible carcinogen

Section 12 - Ecological Information

Environmental Fate: Boric acid: 48 Hr EC50 water flea: 115.0 mg/L [Static]
Environmental Toxicity: The EC50/48-hour values for daphnia are over 100 mg/l. This material may be toxic to aquatic life.

Section 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.

Section 14 - Transport Information

IATA: Not regulated
DOT: Not regulated

Section 15 - Regulatory Information

-----\Chemical Inventory Status - Part 1\-----				
Ingredient	TSCA	EC	Japan	Australia
Boric Acid (10043-35-3)	Yes	Yes	Yes	Yes
-----\Chemical Inventory Status - Part 2\-----				
Ingredient	Korea	DSL	--Canada-- NDSL	Phil.
Boric Acid (10043-35-3)	Yes	Yes	No	Yes
-----\Federal, State & International Regulations - Part 1\-----				
Ingredient	-SARA 302- RQ	TPQ	-----SARA 313----- List	Chemical Catg.
Boric Acid (10043-35-3)	No	No	No	No
-----\Federal, State & International Regulations - Part 2\-----				
	-RCRA-			-TSCA-

Ingredient	CERCLA	261.33	8 (d)
Boric Acid (10043-35-3)	No	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No
Reactivity: No (Pure / Solid)

Section 16 - Other Information

Updated May 25, 2015

WHMIS: SDS prepared according to hazard criteria of controlled products regulations (CPR) and SDS contains all information required by CPR and GHS.

The above information has been developed based upon currently available scientific data. New information may be developed from time to time which may render the conclusions of this report obsolete. Therefore, no warranty is extended as to the applicability of this information to the user's intended purpose or for the consequences of its use or misuse. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Crosscutting Concepts, LLC shall not be held liable for any damage resulting from handling or from contact with the above product.

Safety Data Sheet

Crosscutting Concepts, LLC · P.O. Box 349 · Huntington, WV 25708

Phone: 888-221-4344 · Fax: 888-221-4344, Ext. 804

Section 1 - Chemical Product and Company Identification

Name: Iodine, Dilute Lugols

Common Synonyms: N/A

Chemtrec Phone: 800-424-9300

National Response Center (emergency use): 800-424-8802

Product Use: Laboratory Reagent

Section 2 - Hazard Identification

SKIN CORROSION/IRRITANT Category 3

WARNING: Causes mild skin irritation

Emergency Overview

Effects of overexposure:

Inhalation: May cause respiratory tract irritation.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea.

Eye Contact: May cause irritation

Chronic Exposure: No information found

Aggravation of Pre-existing Conditions: No information found

Section 3 - Composition / Information on Ingredients

<u>Ingredient</u>	<u>CAS No.</u>	<u>Percent</u>
Iodine Crystals	7553-56-2	<1.0
Potassium Iodide	7681-11-0	<1.0
Water	7732-18-5	>98

Section 4 - First Aid Measures

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Skin Contact: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

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

Note to physicians: Treat symptomatically and supportively.

Section 5 - Fire-Fighting Measures

Fire: Not considered to be a fire hazard.

Explosion: Not considered to be an explosive hazard

Fire Extinguishing Media: Use any media suitable for surrounding fire.

Special Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Non-combustible, substance itself does not burn but may decompose upon heating to produce irritating, corrosive and/or toxic fumes.

Section 6 - Accidental Release Measures

Use proper personal protective equipment as indicated in Section 8. Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section.

Section 7 - Handling and Storage

Handling Procedures and Equipment: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Use with adequate ventilation.

Storage requirements: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls / Personal Protection

OSHA Permissible Exposure Limit: None established

ACGIH Threshold Limit Value: None established

Airborne Exposure Limits: None established.

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): Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Skin Protection: Wear appropriate protective gloves to prevent skin exposure. Contact with skin will leave yellow iodine stain.

Eye Protection: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Section 9 - Physical and Chemical Properties

Appearance: Dark red-brown liquid

Odor: Strong

Odor Threshold: N/A

pH: No information found

Melting Point: No information found

Boiling Point: No information found (decomposes)

Flash Point: No information found.

Evaporation Rate (BuAc=1): No information found.

Flammability: Nonflammable

Flammability/explosive limits: No information found.

Vapor Pressure (mm Hg): No information found.

Vapor Density (Air=1): No information found.

Relative Density: No information found

Solubility: Very soluble

Partition Coefficient: No information found.

Auto-ignition Temperature: No information found.

Decomposition Temperature: No information found.

Viscosity: No information found

Section 10 - Stability and Reactivity

Reactivity: No information found.

Stability: Stable under ordinary conditions of use and storage.

Hazardous Reactions: No information found

Conditions to Avoid: Incompatible materials.

Incompatible Materials: Potassium iodide is incompatible with charcoal + ozone, metals and oxidizable derivatives.

Hazardous Decomposition Products: Iodine

Hazardous Polymerization: Will not occur.

Section 11- Toxicological Information

Toxicological Data:

No LD50 information available

Reproductive Toxicity: No information found
DERMAL: No information found
INHALATION: No information found.
IRRITATION: Skin and eyes: slight.
OSHA: Non-carcinogenic
IARC: Non-carcinogenic

Section 12 - Ecological Information

No information found

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

Section 14 - Transport Information

IATA: Not regulated
DOT: Not regulated
TDG: Not regulated

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 7732-18-5 is listed on the TSCA inventory.
CAS# 7553-56-2 is listed on the TSCA inventory.
CAS# 7681-11-0 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 7553-56-2: immediate, delayed, fire.
CAS # 7681-11-0: immediate, delayed.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depleters.
This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 7732-18-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
CAS# 7553-56-2 can be found on the following state right to know lists: California, New Jersey, Pennsylvania,

Minnesota, Massachusetts.

CAS# 7681-11-0 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

Not available.

WGK (Water Danger/Protection)

CAS# 7732-18-5: No information available.

CAS# 7553-56-2: 1

CAS# 7681-11-0: 1

Canada - DSL/NDSL

CAS# 7732-18-5 is listed on Canada's DSL List.

CAS# 7553-56-2 is listed on Canada's DSL List.

CAS# 7681-11-0 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of Not controlled..

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 7553-56-2 is listed on the Canadian Ingredient Disclosure List.

CAS# 7681-11-0 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Other Information

Updated May 26, 2015

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Safety Data Sheet

Crosscutting Concepts, LLC · P.O. Box 349 · Huntington, WV 25708

Phone: 888-221-4344 · Fax: 888-221-4344, Ext. 804

Section 1 - Chemical Product and Company Identification

Name: Isopropyl Alcohol (90-100 %)

Common Synonyms: 2-Propanol; sec-propyl alcohol; isopropanol; sec-propanol; dimethylcarbinol

Molecular Weight: 60.10

Chemical Formula: (CH₃)₂CHOH

Chemtrec Phone: 800-424-9300

National Response Center (emergency use): 800-424-8802

Product Use: Laboratory Reagent

Section 2 - Hazard Identification

FLAMMABLE LIQUIDS Category 2

DANGER: Highly flammable liquid and vapor

Emergency Overview

DANGER: Highly 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.

Effects of overexposure:

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).

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

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

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.

Section 3 - Composition / Information on Ingredients

<u>Ingredient</u>	<u>CAS No.</u>	<u>Percent</u>
Isopropyl Alcohol	67-63-0	90 – 100%
Water	7732-18-5	0 – 10%

Section 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.

Section 5 - Fire-Fighting Measures

Flash Point: 12C / 54F CC

Autoignition Temperature: 399C / 750F

Flammable limits in air % by volume: LEL: 2.0; UEL: 12.7

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 face piece operated in the pressure demand or other positive pressure mode.

Section 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.

Section 7 - Handling and Storage

Handling Procedures and Equipment: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Use with adequate ventilation. Use non-sparking type tools and equipment, including explosion proof ventilation.

Storage requirements: 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. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid). 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.

Section 8 - Exposure Controls / Personal Protection

OSHA Permissible Exposure Limit: 400 ppm (TWA)

ACGIH Threshold Limit Value: 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 face piece 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-face piece 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.

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.

Section 9 - Physical and Chemical Properties

Appearance: Colorless liquid

Odor: Rubbing alcohol

Odor Threshold: N/A

pH: No information found

Melting Point: -89C (-128F)
Boiling Point: 82C (180F)
Flash Point: No information found.
Evaporation Rate (BuAc=1): 2.83
Flammability: Nonflammable
Flammability/explosive limits: No information found.
Vapor Pressure (mm Hg): 44 mmHg @ 25C
Vapor Density (Air=1): 2.1
Relative Density: 0.79 @ 20C
Solubility: Very soluble
Partition Coefficient: No information found.
Auto-ignition Temperature: No information found.
Decomposition Temperature: No information found.
Viscosity: No information found

Section 10 - Stability and Reactivity

Reactivity: No information found.
Stability: Stable under ordinary conditions of use and storage. Heat and sunlight can contribute to instability.
Hazardous Reactions: No information found.
Conditions to Avoid: Incompatible materials, heat, ignition sources
Incompatible Materials: 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.
Hazardous Decomposition Products: Carbon oxides
Hazardous Polymerization: Will not occur.

Section 11- Toxicological Information

Toxicological Data:
Oral rat LD50: 5045 mg/kg; skin rabbit LD50: 12.8 gm/kg; inhalation rat LC50: 16,000 ppm/8-hour
Reproductive Toxicity: No information found
DERMAL: No information found
INHALATION: No information found.
IRRITATION: No information found.
OSHA: No information found.
IARC: No information found.

Section 12 - Ecological Information

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 to 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.

Section 13 - Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to an RCRA approved incinerator or disposed in an 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.

Section 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

Section 15 - Regulatory Information

Cercla: No
 SARA 311/312: Acute: Yes
 Fire: Yes
 Pressure: No
 Reactivity: No
 TSCA: All ingredients of this material listed on TSCA inventory
 TSCA 12: No

-----\Chemical Inventory Status - Part 1\-----

Ingredient	TSCA	EC	Japan	Australia
Isopropyl Alcohol (67-63-0)	Yes	Yes	Yes	Yes
Water (7732-18-5)	Yes	Yes	Yes	Yes

-----\Chemical Inventory Status - Part 2\-----

Ingredient	Korea	--Canada--		
		DSL	NDSL	Phil.
Isopropyl Alcohol (67-63-0)	Yes	Yes	No	Yes
Water (7732-18-5)	Yes	Yes	No	Yes

-----\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

Section 16 - Other Information

Updated May 27, 2015

WHMIS: SDS prepared according to hazard criteria of controlled products regulations (CPR) and SDS contains all information required by CPR and GHS.

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Safety Data Sheet

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Phone: 888-221-4344 · Fax: 888-221-4344, Ext. 804

Section 1 - Chemical Product and Company Identification

Name: Calcium Sulfate

Common Synonyms: Plaster of Paris, Dried gypsum

Chemical Formula: CaSO₄ ½ H₂O

Chemtrec Phone: 800-424-9300

National Response Center (emergency use): 800-424-8802

Product Use: Laboratory Reagent

Section 2 - Hazard Identification

Emergency Overview

SKIN CORROSION/IRRITATION Category 3. Warning: Causes mild skin irritation. Causes irritation to eyes and respiratory tract. May be harmful if swallowed.

Effects of overexposure:

Inhalation: Causes irritation to respiratory tract.

Ingestion: May cause obstruction in stomach, as it hardens with moisture.

Skin Contact: Causes irritation, redness, and pain.

Eye Contact: Causes irritation, redness, and pain.

Chronic Exposure: No information found.

Aggravation of Pre-existing Conditions: No information found.

Section 3 - Composition / Information on Ingredients

<u>Ingredient</u>	<u>CAS No.</u>	<u>Percent</u>
Calcium Sulfate	10101-41-4	100%

Section 4 - First Aid Measures

Inhalation: Remove to fresh air. Do not breathe dust. Drink water to clear throat. Blow nose to evacuate dust. Get medical attention for any breathing difficulty.

Ingestion: If swallowed, induce vomiting immediately after giving two glasses of water.

Skin Contact: Immediately flush skin with plenty of water and soap. Wash contaminated clothing and shoes before reuse.

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

Section 5 - Fire-Fighting Measures

Fire: Not considered to be a fire hazard.

Explosion: Not considered to be an explosion hazard.

Fire Extinguishing Media: Use any means suitable for extinguishing surrounding fire.

Special Information: Use protective clothing and breathing equipment appropriate for the surrounding fire.

Section 6 - Accidental Release Measures

Ventilate Area. Wear appropriate personal protective equipment as specified in Section 8.

Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust.

Section 7 - Handling and Storage

Handling Procedures and Equipment: Keep in a tightly closed container. Protect against physical damage.

Containers of this material may be hazardous when empty, since they retain product residues. Observe warnings/precautions list.

Storage requirements: Cool, dry, ventilated area.

Section 8 - Exposure Controls / Personal Protection

OSHA Permissible Exposure Limit: None established

ACGIH Threshold Limit Value: None established

Airborne Exposure Limits: None established.

Ventilation System: A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. 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): For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. 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-face positive-pressure, air-supplied respirator.

WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection: Gloves and lab coat, apron or coveralls.

Eye Protection: Use chemical safety goggles with side shields. Maintain eye wash fountain and quick-drench facilities in work area.

Other Control Measures: There is insufficient data in the published literature to assign complete numerical SAF-T-DATA* ratings and laboratory protective equipment for this product. Special precautions must be used in storage, use and handling. Protective equipment for laboratory bench use should be chosen using professional judgment based on the size and type of reaction or test to be conducted and the available ventilation, with overriding consideration to minimize contact with the chemical.

Section 9 - Physical and Chemical Properties

Appearance: White granules or powder

Odor: No odor

Odor Threshold: N/A

pH: No information found.

Melting Point: > 300C (> 572F)

Boiling Point: No information found.

Flash Point: No information found.

Evaporation Rate (BuAc=1): No information found.

Flammability: Nonflammable

Flammability/explosive limits: No information found.

Vapor Pressure (mm Hg): No information found.

Vapor Density (Air=1): No information found.

Relative Density: 2.5

Solubility: Slight, 0.3g per 100g water at standard conditions

Partition Coefficient: No information found.

Auto-ignition Temperature: No information found.

Decomposition Temperature: No information found.

Viscosity: N/A

Section 10 - Stability and Reactivity

Reactivity: No information found.

Stability: Stable under ordinary conditions of use and storage. Very hygroscopic.

Hazardous Reactions: No information found.

Conditions to Avoid: Air, moisture, and incompatible materials.

Incompatible Materials: Diazomethane, aluminum, phosphorous

Hazardous Decomposition Products: Burning may product sulfur oxides.

Hazardous Polymerization: Will not occur.

Section 11- Toxicological Information

No LD50/LC50 information found relating to normal routes of occupational exposure.

Section 12 - Ecological Information

No information available.

Section 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. Dispose of container and unused contents in accordance with federal, state, and local requirements.

Section 14 - Transport Information

Not regulated.
US Customs Number: 28332900006

Section 15 - Regulatory Information

Cercla: No
SARA 311/312
Acute: Yes
Chronic: No
Fire: No
Pressure: No
Reactivity: No
SARA 313: No
TSCA: All ingredients of this material listed on TSCA inventory
TSCA 8: No
TSCA 12: No

Section 16 - Other Information

Updated May 25, 2015

WHMIS: SDS prepared according to hazard criteria of controlled products regulations (CPR) and SDS contains all information required by CPR and GHS.

The above information has been developed based upon currently available scientific data. New information may be developed from time to time which may render the conclusions of this report obsolete. Therefore, no warranty is extended as to the applicability of this information to the user's intended purpose or for the consequences of its use or misuse. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Crosscutting Concepts, LLC shall not be held liable for any damage resulting from handling or from contact with the above product.

Material Safety Data Sheet
Crosscutting Concepts, LLC · P.O. Box 349 · Huntington, WV 25708
Phone: 888-221-4344 · Fax: 888-221-4344, Ext. 804

Section 1 - Chemical Product and Company Identification

Name: Powdered Sugar
Common Synonyms: Icing Mixture, Icing Sugar

Chemical Family: Carbohydrates
Chemical Formula: Sucrose, C₁₂H₂₂O₁₁; Corn Starch, (C₆H₁₀O₅)_x
Chemtrec Phone: 800-424-9300
National Response Center 800-424-8802

Product Use: Laboratory Reagent

Section 2 - Hazard Identification

Emergency Overview

WARNING! MAY FORM COMBUSTIBLE DUST CONCENTRATIONS IN AIR

Effects of Overexposure:

Inhalation: No information found

Ingestion: No information found

Eye Contact: No information found

Skin Contact: No information found

Chronic Exposure: Prolonged exposure to nuisance dust could result in temporary, reversible respiratory irritation. Prolonged contact may cause skin sensitization or inflammation (reddening, scaling, or itching).

Aggravation of pre-existing Conditions: No information found

Section 3 - Composition / Information on Ingredients

<u>Ingredient</u>	<u>CAS No.</u>	<u>Percent</u>
Sucrose	57-50-1	>95%
Starch	9005-25-8	<5%

Section 4 - First Aid Measures

Inhalation: If a person inhales a large amount of sugar dust, move the exposed person to fresh air. Get medical attention.

Ingestion: If swallowed in large amounts and the person is conscious, immediately give large amounts water. Get medical attention.

Skin Contact: Wash the affected area with large amounts of water for 15 minutes.

Eye Contact: Wash the affected area with large amounts of water for at least 15 minutes and obtain medical attention.

Section 5 - Fire-Fighting Measures

Flash Point: No information found

Autoignition Temperature: No information found

Explosion risk: This material can form explosible dust/air suspensions that are ignitable under some conditions. Dust accumulations should be avoided to prevent secondary dust explosions. Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source, is a potential dust explosion hazard. *Refer to NFPA 61 for procedures regarding fire and explosion hazards relating to sugar dust.*

Fire Extinguishing Media: Class A stored-pressure wet-water or water-mist extinguishers or extinguishing media that are appropriate for the surrounding fire and materials. Avoid use of pressurized dry-chemical extinguishers on powdered materials to prevent dust suspensions and dust explosion hazards. Hose streams should be used with great

care to avoid creating dust clouds. Fog nozzles should be used.

Section 6 - Accidental Release Measures

Wet sweep, vacuum or pump into containers. Wash area with water. Notify any relevant waste or environmental authority.

Section 7 - Handling and Storage

Handling: Material can ferment if excessive moisture contamination is allowed. Fermentation can yield carbon dioxide with possible traces of ethanol or volatile fatty acids (e.g. acetic, propionic, lactic, or butyric) and if exposed to a spark or flame may result in an explosion. These conditions should be avoided. If maintenance of tank requires entry by personnel, confined space precautions should be complied with. Insufficient oxygen may be present in vessels containing the product due to the generation of carbon monoxide during fermentation.

Storage: This product should be stored in its factory packaging in a dry area.

Section 8 - Exposure Controls / Personal Protection

OSHA Permissible Exposure Limit: No information found

ACGIH Threshold Limit Value: No information found

Engineering Controls:

Ventilation: General room ventilation should be adequate, but local mechanical ventilation may be required if dust is generated, particularly in confined spaces. Work areas should be cleaned regularly by wet sweeping or vacuuming.

Personal Protection If engineering controls and work practices are not effective in controlling exposure, then personal protective equipment may be required.

Skin Protection: Direct skin contact should be avoided by wearing long sleeved shirts and long trousers, a cap or hat, and gloves (PVC coated fabric or equivalent AS 2161). Work clothes should be washed regularly.

Eye Protection: Ventilated non-fogging goggles (splash resistant AS/NZS 1336) should be worn if dust is generated.

Section 9 - Physical and Chemical Properties

Appearance: White powder

Odor: Sweet odor

Odor Threshold: Not determined

pH, at stated concentration: Not available

Freezing/Melting Point: (°C) Decomposes with heat

Boiling Point/range: (°C) 170-186°C

Flash Point: Not available

Evaporation rate: Not available

Flammability: Flammable

Flammability Limits: Combustible

Vapor pressure: Not determined

Vapor Density: Not determined

Specific gravity: (H₂O = 1) 1.59

Solubility in water: 2 kg per liter

Molecular weight: 342

Auto ignition temperature: 500°C

Decomposition Temperature: Not available

Viscosity: Not available

Section 10 - Stability and Reactivity

Reactivity: No information found.

Stability: Stable

Hazardous Reactions: No information found.

Conditions to avoid: None

Incompatible Materials: Oxidizing agents (eg. peroxides).

Hazardous Decomposition products: None Hazardous Polymerization: None
Section 11 - Toxicological Information
Non-toxic.
Section 12 - Ecological Information
No LD50 Data found Ecotoxicity: Non-toxic to aquatic and terrestrial organisms. Persistence and Degradability: Product is persistent and would have a low degradability. Mobility: A low mobility would be expected in a landfill situation.
Section 13 - Disposal Considerations
Powdered Sugar can be treated as a common waste for disposal or dumped into a landfill site in accordance with relevant authority guidelines.
Section 14 - Transport Information
Transport Requirements: No special transport requirements are necessary. UN number: None allocated Class: None allocated Subsidiary Risk 1: None allocated Packaging Group: None allocated Hazchem code: None allocated DG Class: None allocated EPG: None Incompatibilities: None Proper Shipping Name: None allocated Marine Pollutant: No
Section 15 - Regulatory Information
Not a hazardous material.
Section 16 - Other Information
Updated May 27, 2015 WHMIS: SDS prepared according to hazard criteria of controlled products regulations (CPR) and SDS contains all information required by CPR and GHS. The above information has been developed based upon currently available scientific data. New information may be developed from time to time which may render the conclusions of this report obsolete. Therefore, no warranty is extended as to the applicability of this information to the user's intended purpose or for the consequences of its use or misuse. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Crosscutting Concepts, LLC shall not be held liable for any damage resulting from handling or from contact with the above product.

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Phone: 888-221-4344 · Fax: 888-221-4344, Ext. 804

Section 1 - Chemical Product and Company Identification

Name: Sodium Chloride
Common Synonyms: Salt; Rock Salt; Saline; Table Salt

Molecular Weight: 58.44
Chemical Formula: NaCl
Chemtrec Phone: 800-424-9300
National Response Center 800-424-8802

Product Use: Laboratory Reagent

Section 2 - Hazard Identification

SERIOUS EYE DAMAGE/EYE IRRITANT Category 2B
WARNING: Causes Eye Irritation!

Emergency Overview

Effects of overexposure:

Inhalation: May cause mild irritation to the respiratory tract.

Ingestion: Very large doses can cause vomiting, diarrhea, and prostration. Dehydration and congestion occur in most internal organs. Hypertonic salt solutions can produce violent inflammatory reactions in the gastrointestinal tract.

Eye Contact: Causes irritation, redness, and pain. (For salt concentrations greater than the normal saline present.)

Skin Contact: May irritate damaged skin; absorption can occur with effects similar to those via ingestion.

Chronic Exposure: No information found.

Aggravation of Pre-existing Conditions: No information found.

Section 3 - Composition / Information on Ingredients

<u>Ingredient</u>	<u>CAS No.</u>	<u>Percent</u>
Sodium Chloride	7647-14-5	99 – 100%

Section 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: Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention if irritation persists.

Section 5 - Fire-Fighting Measures

Fire: Not considered to be a fire hazard.

Flash Point: No information found

Autoignition Temperature: No information found

Explosion: Not considered to be an explosion hazard.

Fire Extinguishing Media: Use any means suitable for extinguishing surrounding fire.

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.

Section 6 - Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal. Small amounts of residue may be flushed to sewer with plenty of water.

Section 7 - Handling and Storage

Handling: Avoid contact with eyes. Wash thoroughly after handling.

Storage: Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Containers of this material may be hazardous when empty since they retain product residues (dust, solids).

Section 8 - Exposure Controls / Personal Protection

Airborne Exposure Limits: None established.

Ventilation System: In general, dilution ventilation is a satisfactory health hazard control for this substance.

However, if conditions of use create discomfort to the worker, a local exhaust system should be considered.

Personal Respirators (NIOSH Approved): For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. 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-face 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.

Section 9 - Physical and Chemical Properties

Appearance: White crystals.

Odor: Odorless.

Odor Threshold: N/A

pH: 6.7 - 7.3 (aqueous solution)

Melting Point: 801C (1474F)

Boiling Point: 1413C (2575F)

Flash Point: No information found

Evaporation Rate (BuAc=1): No information found.

Flammability: Nonflammable

Flammability/Explosive Limits: No information found

Vapor Pressure (mm Hg): 1.0 @ 865C (1589F)

Vapor Density (Air=1): No information found.

Relative Density: 2.16

Solubility: 36g/100cc water @ 20C (68F)

% Volatiles by volume @ 21C (70F): 0

Partition Coefficient: No information found.

Auto-ignition Temperature: No information found.

Decomposition Temperature: No information found.

Viscosity: No information found

Section 10 - Stability and Reactivity

Reactivity: No information found

Stability: Stable under ordinary conditions of use and storage. Hygroscopic.

Conditions to Avoid: Incompatibles.

Incompatible Materials: Lithium, bromine trifluoride.

Hazardous Decomposition Products: When heated to above 801C (1474F), emits toxic fumes of chloride and sodium oxide.

Hazardous Polymerization: Will not occur.

Section 11- Toxicological Information

Oral rat LD50: 3000 mg/kg.

Inhalation rat LC50: > 42 gm/m³ /1H.

Skin rabbit LD50: > 10 gm/kg. Investigated as a mutagen, reproductive effector.

Section 12 - Ecological Information

Environmental Fate: No information found.

Environmental Toxicity: No information found.

Section 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.

Section 14 - Transport Information

Not regulated

Section 15 - Regulatory Information

-----\Chemical Inventory Status - Part 1\-----
 Ingredient TSCA EC Japan Australia

Sodium Chloride (7647-14-5) Yes Yes Yes Yes

-----\Chemical Inventory Status - Part 2\-----

Ingredient Korea DSL NDSL Phil. --Canada--

Sodium Chloride (7647-14-5) Yes Yes No Yes

-----\Federal, State & International Regulations - Part 1\-----

Ingredient -SARA 302- RQ TPQ -SARA 313- List Chemical Catg.

Sodium Chloride (7647-14-5) No No No No

-----\Federal, State & International Regulations - Part 2\-----

Ingredient CERCLA -RCRA- 261.33 -TSCA- 8(d)

Sodium Chloride (7647-14-5) 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)

Section 16 - Other Information

Updated May 28, 2015

WHMIS: SDS prepared according to hazard criteria of controlled products regulations (CPR) and SDS contains all information required by CPR and GHS.

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Phone: 888-221-4344 · Fax: 888-221-4344, Ext. 804

Section 1 - Chemical Product and Company Identification

Name: Talc Powder
Common Synonyms: Talcum, French chalk, agalite

Molecular Weight: 96.33
Chemical Formula: H₂O₃Si_{3/4} Mg
Chemtrec Phone: 800-424-9300
National Response Center 800-424-8802

Product Use: Laboratory Reagent

Section 2 - Hazard Identification

CARCINOGENICITY Category 1
Warning: Chronic respiration may cause cancer!

Emergency Overview

Warning: CAUTION! CHRONIC INHALATION MAY CREATE A RESPIRATORY HAZARD. MAY AFFECT EYES, RESPIRATORY SYSTEM AND CARDIOVASCULAR SYSTEM. MAY AFFECT LUNGS. CANCER HAZARD. CONTAINS CRYSTALLINE SILICA WHICH CAN CAUSE CANCER. Risk of cancer depends upon duration and level of exposure.

Effects of overexposure:

Inhalation: Inhalation of large amounts of this fine dust may lead to pulmonary edema. May cause irritation to the upper respiratory tract. Tickling cough is a common symptom.

Ingestion: Large doses may cause gastric irritation, nausea, and diarrhea.

Eye Contact: May cause redness or irritation of eyes.

Skin Contact: May cause irritation.

Chronic Exposure: Prolonged inhalation of dust is associated with respiratory effects. Long term excessive exposures to talc may cause Talcosis, a pulmonary fibrosis which may in turn lead to severe and permanent damage to the lung. Crystalline silica: Chronic inhalation of dust can produce silicosis, a disease of the lungs.

Cardiopulmonary impairment may occur. Chronic inhalation of crystalline silica is a lung cancer hazard.

Aggravation of Pre-existing Conditions: No information found.

Section 3 - Composition / Information on Ingredients

<u>Ingredient</u>	<u>CAS No.</u>	<u>Percent</u>
Talc	148-07-96-6	100%

Section 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.

Section 5 - Fire-Fighting Measures

Fire: Not considered to be a fire hazard.

Flash Point: No information found

Autoignition Temperature: No information found

Explosion: Not considered to be an explosion hazard.

Fire Extinguishing Media: Use any means suitable for extinguishing surrounding fire.

Special Information: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained

breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

Section 6 - Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal. Talc accumulations on walking surfaces will cause very slippery conditions.

Section 7 - Handling and Storage

Handling: Observe all warnings and precautions listed for the product.

Storage: Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Containers of this material may be hazardous when empty since they retain product residues (dust, solids).

Section 8 - Exposure Controls / Personal Protection

Airborne Exposure Limits:

-OSHA Permissible Exposure Limit (PEL): 20 mppcf for talc containing no asbestos

-ACGIH Threshold Limit Value (TLV): 2 mg/m³ (TWA) respirable dust for talc containing no asbestos

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 face piece 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-face piece positive-pressure, air-supplied respirator.

Skin Protection: Wear protective gloves and clean body-covering clothing.

Eye Protection: Safety glasses. Maintain eye wash fountain and quick-drench facilities in work area.

Section 9 - Physical and Chemical Properties

Appearance: White to grayish-white fine powder.

Odor: Odorless.

Odor Threshold: N/A

pH: No information found.

Melting Point: No information found.

Boiling Point: No information found.

Flash Point: No information found

Evaporation Rate (BuAc=1): N/A

Flammability: Nonflammable

Flammability/explosive Limit: No information found

Vapor Pressure (mm Hg): No information found.

Vapor Density (Air=1): No information found.

% Volatiles by volume @ 21C (70F): 0

Relative Density: 2.7-2.8

Solubility: Insoluble in water.

Partition Coefficient: No information found

Auto-ignition Temperature: No information found

Decomposition Temperature: No information found

Viscosity: No information found

Section 10 - Stability and Reactivity

Reactivity: No information found

Stability: Stable under ordinary conditions of use and storage.

Hazardous Reactions: No information found
 Conditions to Avoid: Dusting, incompatibles
 Incompatible Materials: Manganese trifluoride, fluorine monoxide, chlorine trifluoride.
 Hazardous Decomposition Products: No information found.
 Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

Toxicological Data: No LD50/LC50 information found relating to normal routes of occupational exposure.
 Talc: irritation skin human: 300 ug/3D-I mild; investigated as a tumorigen.

Section 12 - Ecological Information

No information available.

Section 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.

Section 14 - Transport Information

Not regulated

Section 15 - Regulatory Information

-----\Chemical Inventory Status - Part 1\-----				
Ingredient	TSCA	EC	Japan	Australia

Talc (14807-96-6)	Yes	Yes	Yes	Yes

-----\Chemical Inventory Status - Part 2\-----				
Ingredient	Korea	DSL	NDSL	Phil.

Talc (14807-96-6)	Yes	Yes	No	Yes

-----\Federal, State & International Regulations - Part 1\-----				
Ingredient	-SARA 302-	TPQ	-SARA 313-	Chemical Catg.

Talc (14807-96-6)	No	No	No	No

-----\Federal, State & International Regulations - Part 2\-----				
Ingredient	CERCLA	-RCRA-	261.33	-TSCA-

Talc (14807-96-6)	No	No	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
 SARA 311/312: Acute: No Chronic: Yes Fire: No Pressure: No
 Reactivity: No (Pure / Solid)

Section 16 - Other Information

Updated May 28, 2015

WHMIS: SDS prepared according to hazard criteria of controlled products regulations (CPR) and MSDS contains all information required by CPR.

The above information has been developed based upon currently available scientific data. New information may be

developed from time to time which may render the conclusions of this report obsolete. Therefore, no warranty is extended as to the applicability of this information to the user's intended purpose or for the consequences of its use or misuse. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Crosscutting Concepts, LLC shall not be held liable for any damage resulting from handling or from contact with the above product.

Safety Data Sheet

Crosscutting Concepts, LLC · P.O. Box 349 · Huntington, WV 25708

Phone: 888-221-4344 · Fax: 888-221-4344, Ext. 804

Section 1 - Chemical Product and Company Identification

Name: Glucose Solution
Common names: Corn Syrup, Dextrose Solution

Chemtrec Phone: 800-424-9300
National Response Center 800-424-8802

Product Use: Laboratory reagent
Product Number: VIH10263

Section 2 - Hazard Identification

This product is considered non-hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200) if used as directed.
Target Organs: None

Section 3 - Composition / Information on Ingredients

<u>Ingredient</u>	<u>CAS No.</u>	<u>Percent</u>
Corn Syrup	8029-43-4	Variable
Water	7732-18-5	Variable

Section 4 - First Aid Measures

INGESTION: Rinse mouth with cold water. Give victim 1-2 cups of water or milk to drink. Induce vomiting immediately. Obtain immediate medical attention.

INHALATION: Remove to fresh air immediately. If breathing is difficult, give oxygen. Get medical attention for any breathing difficulty. Do not use mouth-to-mouth resuscitation.

SKIN CONTACT: Remove contaminated clothing and shoes. Immediately flush affected skin with large amounts of water for a minimum of 15 minutes and then wash with soap and water. Obtain immediate medical attention if irritation, blisters, or redness develop.

EYE CONTACT: Immediately flush eyes with copious quantities of water for at least 15 minutes, holding open eyelids to ensure adequate flushing. Obtain immediate medical attention if persistent irritation occurs.

Section 5 - Fire-Fighting Measures

General information: Emits acrid fumes when heated to decomposition! Firefighters should wear full firefighting turn-out gear and respiratory protection. Cool container with water spray. Material is not sensitive to mechanical impact or static discharge.

Vapors may ignite when exposed to ignition source and may explode within confined spaces. May float and be ignited on top of surface water. Flammable vapors may be present below the flash point temperature.

Extinguishing Media: Foam or dry chemical.

Flash Point: No information found

Autoignition temperature: No information found

Explosion Limits: Lower: N/A **Upper:** N/A

Section 6 - Accidental Release Measures

Use recommended personal protection. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Contain spill with sand or absorbent material and place material in a sealed bag or container for disposal. Wash spill area after pickup is complete.

Section 7 - Handling and Storage

Handling: Use with adequate ventilation. Avoid inhalation of dust or vapor. Avoid contact with skin, eyes, or clothing. Wash hands thoroughly after handling.

Storage: Store in General Storage Area with like items with no specific storage hazards. Store in a cool, dry, well-ventilated, locked store room away from incompatible materials.

Section 8 - Exposure Controls / Personal Protection

Airborne Exposure Limits:

OSHA Permissible Exposure Limit (PEL): N/A

ACGIH Threshold Limit Value (TLV): N/A

ACGIH Biological Exposure Indices (BEI): N/A

NIOSH Recommended Exposure Limit (REL): N/A

Personal Respirators: N/A

Skin Protection: Wear protective gloves and clean body-covering clothing.

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.

Ventilation System: A system of local and/or general exhaust is recommended to keep employee exposure low.

General: Wash after handling. Ensure fire extinguishers are readily available.

Section 9 - Physical and Chemical Properties

Appearance: Clear, viscous liquid

Odor: Sweet

Odor Threshold: No information found

pH: No information found

Melting Point: No information found

Boiling Point: Acetone: No information found

Flash Point: No information found

Evaporation Rate (BuAc=1): No information found

Flammability: Flammable

Flammability/explosive limits: No information found

Vapor Density (Air=1): No information found

Vapor Pressure (mm Hg): No information found

Relative Density/Specific Gravity: No information found

Solubility: Soluble in water

Partition Coefficient: No information found.

Auto-ignition Temperature: No information found.

Decomposition Temperature: No information found.

Viscosity: No information found

Section 10 - Stability and Reactivity

Reactivity: Nonreactive

Chemical stability: Stable

Hazardous Reactions: No information found

Conditions to avoid: Incompatible materials, ignition sources, excess heat, moisture

Incompatible materials: Strong oxidizing agents

Hazardous decomposition products: Carbon monoxide, carbon dioxide.

Hazardous polymerization: Will not occur.

Section 11 - Toxicological Information

Toxicological Data

Acute Dermal LD50 (Rabbits): N/A

Acute Oral LD50 (Rats): N/A

Material has not been found to be a carcinogen, nor to produce genetic, reproductive, or developmental effects.

Acute Symptoms/Signs of Exposure

Eyes: Redness, tearing, itching, burning, conjunctivitis.

Skin: Redness, itching.

Ingestion: Irritation and burning sensations of mouth and throat, nausea, vomiting and abdominal pain.

Inhalation: Irritation of mucous membranes, coughing, wheezing, shortness of breath.

Section 12 - Ecological Information

Not considered an environmental hazard.

Section 13 - Disposal Considerations

Check with all applicable local, regional, and national laws and regulations. Local regulations may be more stringent than regional or national regulations. Small amounts of this material may be suitable for sanitary sewer or trash disposal. Material is non-hazardous per 40 CFR 261

Section 14 - Transport Information

Not regulated by DOT or TDG.

Section 15 - Regulatory Information

Not listed for regulatory control.

Section 16 - Other Information

Updated May 22, 2015

WHMIS: SDS prepared according to hazard criteria of controlled products regulations (CPR) and SDS contains all information required by CPR.

The above information has been developed based upon currently available scientific data. New information may be developed from time to time which may render the conclusions of this report obsolete. Therefore, no warranty is extended as to the applicability of this information to the user's intended purpose or for the consequences of its use or misuse. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Crosscutting Concepts, LLC shall not be held liable for any damage resulting from handling or from contact with the above product.