MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name	**STANNOUS CHLORIDE, REAGENT I, SOLUTION**
Catalog #	2150
Version #	02
Revision date	21-Feb-2008
CAS #	10025-69-1
Manufacturer information	GFS Chemicals, Inc. P.O. Box 245 Powell, OH 43065 US www.gfschemicals.com Fax 740-881-5989 Phone 740-881-5501 Toll Free 800-858-9682 Emergency Assistance Chemtrec 800-424-8300

2. Hazards Identification

Emergency overview	Contact with eyes may cause irritation. Contact with skin may cause irritation. May cause irritation of respiratory tract. May be harmful if swallowed.
OSHA regulatory status	This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects	
Routes of exposure	Not applicable.
Eyes	Contact may irritate or burn eyes. Eye contact may result in corneal injury. Do not get this material in contact with eyes. Avoid contact with eyes.
Skin	Contact may irritate or burn skin.
Inhalation	May cause irritation of respiratory tract. Avoid breathing dust/fume/gas/mist/vapors/spray.
Ingestion	Components of the product may be absorbed into the body by ingestion. Do not ingest.
Target organs	Eyes. Kidney. Respiratory system. Skin.
Chronic effects	Kidney injury may occur. Prolonged skin contact may defat the skin and produce dermatitis.
Potential environmental effects	May cause long-term adverse effects in the environment.

3. Composition / Information on Ingredients

Components	CAS #	Percent
GLYCERIN	56-81-5	90 - 100
STANNOUS CHLORIDE, DIHYDRATE	10025-69-1	2.5 - 10

Composition comments

US OSHA Table Z-1-A: Time Weighted Average (TWA): mg/m3

GLYCERIN	56-81-5	Total dust. MGM3 - 10
GLYCERIN	56-81-5	Respirable fraction. MGM3 - 5

4. First Aid Measures

First aid procedures

Eye contact	Rinse with water. Get medical attention if irritation develops or persists.
Skin contact	Get medical attention if irritation develops or persists. Rinse skin with water/shower.
Inhalation	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.
Ingestion	No need for first aid is anticipated if material is swallowed. If ingestion of a large amount does occur, call a poison control center immediately.
Notes to physician	Symptoms may be delayed.
General advice	If you feel unwell, seek medical advice (show the label where possible).

5. Fire Fighting Measures

Flammable properties Not flammable by OSHA criteria. Not combustible by OSHA criteria.

Extinguishing media

Suitable extinguishing media Water. Water spray. Foam. Dry powder. Carbon dioxide (CO2).

Protection of firefighters

Protective equipment and precautions for firefighters Move containers from fire area if you can do it without risk. Use water spray to cool unopened containers. Cool containers with flooding quantities of water until well after fire is out.

Specific methods In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers.

6. Accidental Release Measures

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not contaminate water.

Methods for containment Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewers, basements or confined areas.

Methods for cleaning up Should not be released into the environment. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. After removal flush contaminated area thoroughly with water.

7. Handling and Storage

Handling Do not handle or store near an open flame, heat or other sources of ignition. Do not get this material in contact with eyes. Do not get this material in contact with skin. Use only with adequate ventilation. Wash thoroughly after handling. Avoid prolonged exposure. Avoid release to the environment.

Storage Keep away from heat, sparks, and flame. Keep in a well-ventilated place. Store in a cool dry place. Keep container tightly closed. Use care in handling/storage.

8. Exposure Controls / Personal Protection

Occupational exposure limits

ACGIH

Material	CAS #	Type	Value	Form
STANNOUS CHLORIDE, REAGENT I, SOLUTION	10025-69-1	TWA	2 mg/m3	as tin
			10 mg/m3	glycerin

Components

GLYCERIN	56-81-5	TWA	10 mg/m3	Mist.
STANNOUS CHLORIDE, DIHYDRATE	10025-69-1	TWA	2 mg/m3	as tin

U.S. - OSHA

Material	CAS #	Type	Value	Form
STANNOUS CHLORIDE, REAGENT I, SOLUTION	10025-69-1	TWA	15 mg/m3	glycerin
			2 mg/m3	as tin

Components

GLYCERIN	56-81-5	PEL	15 mg/m3	Total dust.
			5 mg/m3	Respirable fraction.
		TWA	10 mg/m3	Total dust.
			5 mg/m3	Respirable fraction.
STANNOUS CHLORIDE, DIHYDRATE	10025-69-1	TWA	2 mg/m3	as tin

Engineering controls Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Respiratory protection Respirator with filter for organic vapor No personal respiratory protective equipment normally required.

Hand protection Protective gloves. Not normally needed.

Eye / face protection Do not get this material in contact with eyes. Avoid contact with eyes. Wear chemical goggles.

Skin protection Do not get this material in contact with skin. Avoid contact with the skin. Wear appropriate chemical resistant gloves. Wear appropriate chemical resistant clothing.

General hygeine considerations Do not get this material in contact with eyes. Do not get this material in contact with skin. Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties

Appearance Clear.

Color Colorless to light tan.

Odor Odorless.

Odor threshold Not available.

Physical state Liquid.

Form Not available.

pH Not available.

Melting point 66.2 °F (18.52 °C) estimated

Freezing point Not available.

Boiling point 554 °F (290 °C) estimated

Flash point 390.2 °F (199 °C) estimated

Evaporation rate Not available.

Flammability Not available.

Flammability limits in air, upper, % by volume Not available.

Flammability limits in air, lower, % by volume Not available.

Vapor pressure Not available.

Vapor density Not available.

Specific gravity 1.2601 estimated

Relative density 1.26 g/cm3 estimated

Solubility (water) Completely miscible

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature 698 °F (370 °C) estimated

Decomposition temperature Not available.

10. Chemical Stability & Reactivity Information

Chemical stability	Stable at normal conditions.
Conditions to avoid	Heat, flames and sparks.
Incompatible materials	Strong acids, alkalies and oxidizing agents.
Hazardous decomposition products	At thermal decomposition temperatures, carbon monoxide and carbon dioxide.

11. Toxicological Information

Toxicology data for the preparation

Acute LD50: 12.94 g/kg, Rat, Oral, estimated

Local effects	Contact may irritate or burn eyes. Contact with skin may cause irritation. Components of the product may be absorbed into the body through the skin.
Chronic effects	Hazardous by OSHA criteria. Repeated absorption may cause disorder of central nervous system, liver, kidneys and blood. Prolonged exposure may cause chronic effects.
Subchronic effects	Kidney injury may occur.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Epidemiology	Hazardous by OSHA criteria.
Further information	Symptoms may be delayed.

12. Ecological Information

Ecotoxicity	Components of this product have been identified as having potential environmental concerns.
Environmental effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Persistence and degradability	Not available.

13. Disposal Considerations

Disposal instructions	Do not allow this material to drain into sewers/water supplies. This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Dispose in accordance with all applicable regulations.

14. Transport Information

DOT

Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List. CERCLA/SARA Hazardous Substances - Not applicable.

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
Section 302 extremely hazardous substance	No
Section 311 hazardous chemical	Yes

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of New and Existing Chemicals (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US - Pennsylvania RTK - Hazardous Substances: Listed substance

GLYCERIN	56-81-5	Listed.

16. Other Information

Further information HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings
Health: 2*
Flammability: 1
Physical hazard: 1

NFPA ratings
Health: 2
Flammability: 1
Instability: 1

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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