



## Safety Data Sheet

Material Name: >6.7-<14.24% Hydrogen Sulfide in Nitrogen

SDS ID: 00244697

### Section 1 - PRODUCT AND COMPANY IDENTIFICATION

**Material Name**

>6.7-<14.24% Hydrogen Sulfide in Nitrogen

**Product Description**

Classification determined in accordance with Compressed Gas Association standards.

**Product Use**

Industrial and Specialty Gas Applications

**Restrictions on Use**

None known

**Details of the supplier of the safety data sheet**

MATHESON TRI-GAS, INC.

150 Allen Road, Suite 302

Basking Ridge, NJ 07920

General Information: 1-800-416-2505

Emergency #: 1-800-424-9300 (CHEMTREC)

Outside the US: 703-527-3887 (Call collect)

### Section 2 - HAZARDS IDENTIFICATION

**Classification in accordance with paragraph (d) of 29 CFR 1910.1200.**

Flammable Gases - Category 1

Gases Under Pressure - Compressed gas

Simple Asphyxiant

**GHS Label Elements**

**Symbol(s)**



**Signal Word**

Danger

**Hazard Statement(s)**

Extremely flammable gas.

Contains gas under pressure; may explode if heated.

May displace oxygen and cause rapid suffocation.

**Precautionary Statement(s)**

**Prevention**

Keep away from heat/sparks/open flame/hot surfaces - No smoking.

**Response**

Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

Eliminate all ignition sources if safe to do so.

**Storage**

Protect from sunlight. Store in a well-ventilated place.

**Disposal**

Dispose of contents/container in accordance with local/regional/national/international regulations.

**Other Hazards**



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Rapid release of compressed gas may cause frostbite

<b>Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS</b>		
<b>CAS</b>	<b>Component Name</b>	<b>Percent</b>
7783-06-4	Hydrogen sulfide	>6.7-<14.24
7727-37-9	Nitrogen	>85.76-<93.3

### **Section 4 - FIRST AID MEASURES**

**Inhalation**

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

**Skin**

If frostbite or freezing occur, immediately flush with plenty of lukewarm water (105-115°F; 41-46°C). DO NOT USE HOT WATER. If warm water is not available, gently wrap affected parts in blankets. Get immediate medical attention.

**Eyes**

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Then get immediate medical attention.

**Ingestion**

If swallowed, get medical attention.

**Most Important Symptoms/Effects**

**Acute**

frostbite, suffocation

**Delayed**

No information on significant adverse effects.

**Indication of any immediate medical attention and special treatment needed**

For inhalation, consider oxygen.

### **Section 5 - FIRE FIGHTING MEASURES**

**Extinguishing Media**

**Suitable Extinguishing Media**

carbon dioxide, regular dry chemical

**Unsuitable Extinguishing Media**

Do not use high-pressure water streams.

**Special Hazards Arising from the Chemical**

Severe fire hazard. Severe explosion hazard. Gas/air mixtures are explosive. Containers may rupture or explode if exposed to heat. Electrostatic discharges may be generated by flow or agitation resulting in ignition or explosion.

**Hazardous Combustion Products**

oxides of sulfur, oxides of nitrogen

**Fire Fighting Measures**

Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Do not direct water at source of leak or safety devices; icing may occur. Stay upwind and keep out of low areas. Avoid inhalation of material or combustion by-products. Stay away from the ends of tanks. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck, evacuation radius: 1600 meters (1 mile).

**Special Protective Equipment and Precautions for Firefighters**



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Wear full protective firefighting gear including self-contained breathing apparatus (SCBA) for protection against possible exposure

**Section 6 - ACCIDENTAL RELEASE MEASURES**

**Personal Precautions, Protective Equipment and Emergency Procedures**

Wear personal protective clothing and equipment, see Section 8.

**Methods and Materials for Containment and Cleaning Up**

Keep unnecessary people away, isolate hazard area and deny entry. Stop leak if possible without personal risk. Do not touch or walk through spilled material. Use water spray to reduce vapors or divert vapor cloud drift. Do not direct water at spill or source of leak. Ventilate closed spaces before entering.

**Environmental Precautions**

Avoid release to the environment. Prevent entry into waterways, sewers, basements, or confined areas.

**Section 7 - HANDLING AND STORAGE**

**Precautions for Safe Handling**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Avoid breathing gas. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling. Do not eat, drink or smoke when using this product.

**Conditions for Safe Storage, Including any Incompatibilities**

Protect from sunlight. Store in a well-ventilated place.

Store in accordance with all current regulations and standards. Keep away from incompatible materials. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101

**Incompatible Materials**

combustible materials, metals, oxidizing materials, halogens, metal oxides, metal salts, bases

**Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Component Exposure Limits**

<b>Hydrogen sulfide</b>	<b>7783-06-4</b>
ACGIH:	1 ppm TWA
	5 ppm STEL
NIOSH:	10 ppm Ceiling 10 min ; 15 mg/m3 Ceiling 10 min
	100 ppm IDLH
Europe:	5 ppm TWA ; 7 mg/m3 TWA
	10 ppm STEL ; 14 mg/m3 STEL
OSHA (US):	20 ppm Ceiling
Mexico:	10 ppm TWA VLE-PPT ; 14 mg/m3 TWA VLE-PPT
	15 ppm STEL [PPT-CT ] ; 21 mg/m3 STEL [PPT-CT ]
<b>Nitrogen</b>	<b>7727-37-9</b>
ACGIH:	(See Appendix F: Minimal Oxygen Content )

**ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)**



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There are no biological limit values for any of this product's components.

**Engineering Controls**

Provide local exhaust or process enclosure ventilation system. Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Ensure compliance with applicable exposure limits.

**Individual Protection Measures, such as Personal Protective Equipment****Eye/face protection**

For the gas: Eye protection not required, but recommended. For the liquid: Wear splash resistant safety goggles. Contact lenses should not be worn. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

**Skin Protection**

For the gas: Protective clothing is not required. For the liquid: Wear appropriate protective, cold insulating clothing.

**Respiratory Protection**

The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA. Any powered, air-purifying respirator with cartridge(s) providing protection against this substance.

**Glove Recommendations**

Wear insulated gloves.

**Section 9 - PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	colorless gas	<b>Physical State</b>	gas
<b>Odor</b>	Not available	<b>Color</b>	Not available
<b>Odor Threshold</b>	Not available	<b>pH</b>	Not available
<b>Melting Point</b>	Not available	<b>Boiling Point</b>	Not available
<b>Boiling Point Range</b>	Not available	<b>Freezing point</b>	Not available
<b>Evaporation Rate</b>	Not available	<b>Flammability (solid, gas)</b>	Flammable gas
<b>Autoignition Temperature</b>	Not available	<b>Flash Point</b>	Not available
<b>Lower Explosive Limit</b>	Not available	<b>Decomposition temperature</b>	Not available
<b>Upper Explosive Limit</b>	Not available	<b>Vapor Pressure</b>	Not available
<b>Vapor Density (air=1)</b>	Not available	<b>Specific Gravity (water=1)</b>	Not available
<b>Water Solubility</b>	Not available	<b>Partition coefficient: n-octanol/water</b>	Not available
<b>Viscosity</b>	Not available	<b>Kinematic viscosity</b>	Not available
<b>Solubility (Other)</b>	Not available	<b>Density</b>	Not available
<b>Physical Form</b>	Compressed gas	<b>Molecular Weight</b>	Not available

**Section 10 - STABILITY AND REACTIVITY****Reactivity**

No reactivity hazard is expected

**Chemical Stability**



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Stable at normal temperatures and pressure.

**Possibility of Hazardous Reactions**

Will not polymerize.

**Conditions to Avoid**

Protect from physical damage and heat. Containers may rupture or explode if exposed to heat.

**Incompatible Materials**

combustible materials, metals, oxidizing materials, halogens, metal oxides, metal salts, bases

**Hazardous decomposition products**

oxides of sulfur, oxides of nitrogen

**Section 11 - TOXICOLOGICAL INFORMATION****Information on Likely Routes of Exposure****Inhalation**

irritation, cough, lack of sense of smell, sensitivity to light, tingling sensation, changes in blood pressure, nausea, vomiting, difficulty breathing, headache, drowsiness, loss of coordination, dizziness, mood swings, disorientation, hallucinations, pain in extremities, tremors, visual disturbances, suffocation, lung congestion, internal bleeding, irregular heartbeat, heart disorders, nerve damage, respiratory system damage, cardiovascular system damage, brain damage, convulsions, coma, death

**Skin Contact**

frostbite

**Eye Contact**

frostbite

**Ingestion**

Ingestion of harmful amounts is unlikely

**Acute and Chronic Toxicity****Component Analysis - LD50/LC50**

The components of this material have been reviewed in various sources and the following selected endpoints are published:

**Hydrogen sulfide (7783-06-4)**Inhalation LC50 Rat 700 mg/m<sup>3</sup> 4 h**Product Toxicity Data****Acute Toxicity Estimate**

No data available.

**Immediate Effects**

frostbite, suffocation

**Delayed Effects**

No information on significant adverse effects.

**Irritation/Corrosivity Data**

No data available.

**Respiratory Sensitization**

No data available.

**Dermal Sensitization**

No data available.

**Component Carcinogenicity**

None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA.

**Germ Cell Mutagenicity**

No data available.

**Tumorigenic Data**

No data available



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**Reproductive Toxicity**

No data available.

**Specific Target Organ Toxicity - Single Exposure**

No target organs identified.

**Specific Target Organ Toxicity - Repeated Exposure**

No target organs identified.

**Aspiration hazard**

No data available.

**Medical Conditions Aggravated by Exposure**

No data available.

**Section 12 - ECOLOGICAL INFORMATION**

**Component Analysis - Aquatic Toxicity**

<b>Hydrogen sulfide</b>	7783-06-4
Fish:	LC50 96 h Lepomis macrochirus 0.0448 mg/L [flow-through ]; LC50 96 h Pimephales promelas 0.016 mg/L [flow-through ]

**Persistence and Degradability**

No information available for the product.

**Bioaccumulative Potential**

No information available for the product.

**Mobility**

No information available for the product.

**Section 13 - DISPOSAL CONSIDERATIONS**

**Disposal Methods**

Dispose in accordance with all applicable regulations.

**Component Waste Numbers**

The U.S. EPA has not published waste numbers for this product's components.

**Section 14 - TRANSPORT INFORMATION**

**US DOT Information:**

**Shipping Name:** COMPRESSED GAS, FLAMMABLE, N.O.S. , ( Contains: Hydrogen sulfide , Nitrogen )

**Hazard Class:** 2.1

**UN/NA #:** UN1954

**Required Label(s):** 2.1

**IMDG Information:**

**Shipping Name:** COMPRESSED GAS, FLAMMABLE, N.O.S. , ( Contains: Hydrogen sulfide , Nitrogen )

**Hazard Class:** 2.1

**UN#:** UN1954

**Required Label(s):** 2.1

**International Bulk Chemical Code**

This material does not contain any chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

**Section 15 - REGULATORY INFORMATION**

**U.S. Federal Regulations**



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This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

<b>Hydrogen sulfide</b>	<b>7783-06-4</b>
SARA 302:	500 lb TPQ
SARA 313:	1 % de minimis concentration
CERCLA:	100 lb final RQ ; 45.4 kg final RQ
OSHA (safety):	1500 lb TQ
SARA 304:	100 lb EPCRA RQ

**SARA Section 311/312 (40 CFR 370 Subparts B and C) reporting categories**

Flammable; Gas Under Pressure; Simple Asphyxiant

**U.S. State Regulations**

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
<b>Hydrogen sulfide</b>	<b>7783-06-4</b>	Yes	Yes	Yes	Yes	Yes
<b>Nitrogen</b>	<b>7727-37-9</b>	No	Yes	Yes	Yes	Yes

**Not listed under California Proposition 65**

**Canada Regulations**

**Canadian WHMIS Ingredient Disclosure List (IDL)**

Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included in products which meet WHMIS criteria specified in the Controlled Products Regulations and are present above the threshold limits listed on the IDL

<b>Hydrogen sulfide</b>	<b>7783-06-4</b>
	1 %

**Component Analysis - Inventory**

**Hydrogen sulfide (7783-06-4)**

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes

**Nitrogen (7727-37-9)**

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI -	KR KECI -	KR - REACH	CN	NZ	MX	TW	VN (Draft)



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							Annex 1	Annex 2	CCA					
Yes	DSL	EIN	Yes	Yes	No	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes

**Section 16 - OTHER INFORMATION**

**NFPA Ratings**

Health: 2 Fire: 4 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

**Summary of Changes**

Updated: 07/11/2016

**Key / Legend**

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania\*; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CFR - Code of Federal Regulations (US); CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EC - European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; F - Background (for Venezuela Biological Exposure Indices); IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL) , KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX - Mexico; Ne- Non-specific; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; Nq - Non-quantitative; NSL - Non-Domestic Substance List (Canada); NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL- Permissible Exposure Limit; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; Sc - Semi-quantitative; STEL - Short-term Exposure Limit; TCCA - Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW - Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); VN (Draft) - Vietnam (Draft); WHMIS - Workplace Hazardous Materials Information System (Canada).

**Other Information**

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