



Safety Data Sheet

Material Name: ≤6.7% Hydrogen Sulfide in Nitrogen

SDS ID: 00244711

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name

≤6.7% Hydrogen Sulfide in Nitrogen

Product Description

Gas mixture inhalation acute toxicity determined according to Compressed Gas Association Standard P-20. Gas mixture flammability determined according to Compressed Gas Association Standard P-23.

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.

Gases Under Pressure - Compressed gas

Specific Target Organ Toxicity - Single Exposure - Category 1 (cardiovascular system , central nervous system , respiratory system)

Specific Target Organ Toxicity - Repeated Exposure - Category 1 (Nervous System , upper respiratory system)

Simple Asphyxiant

GHS Label Elements

Symbol(s)



Signal Word

Danger

Hazard Statement(s)

Contains gas under pressure; may explode if heated.

Causes damage to organs.

Causes damage to organs through prolonged or repeated exposure.

May displace oxygen and cause rapid suffocation.

Precautionary Statement(s)

Prevention

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Response



Safety Data Sheet

Material Name: ≤6.7% Hydrogen Sulfide in Nitrogen

SDS ID: 00244711

If exposed: Call a POISON CENTER or doctor/physician.
Get medical advice/attention if you feel unwell.
Specific treatment (see label).

Storage

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

Disposal

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

Other Hazards

Rapid release of compressed gas may cause frostbite

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS		
CAS	Component Name	Percent
7783-06-4	Hydrogen sulfide	≤6.7
7727-37-9	Nitrogen	≥93.3

Section 4 - FIRST AID MEASURES

Inhalation

Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention if you feel unwell.

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

Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Ingestion

If swallowed, get medical attention.

Most Important Symptoms/Effects

Acute

frostbite, suffocation, cardiovascular system damage, central nervous system damage, respiratory system damage

Delayed

nervous system damage, respiratory system damage

Indication of any immediate medical attention and special treatment needed

For inhalation, consider oxygen.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

regular dry chemical, carbon dioxide. Large fires: Use water spray, fog or regular foam.

Unsuitable Extinguishing Media

Do not use high-pressure water streams.

Special Hazards Arising from the Chemical

Pressurized containers may rupture or explode if exposed to sufficient heat.

Hazardous Combustion Products

oxides of sulfur, oxides of nitrogen

Fire Fighting Measures



Safety Data Sheet

Material Name: ≤6.7% Hydrogen Sulfide in Nitrogen

SDS ID: 00244711

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: 800 meters (1/2 mile).

Special Protective Equipment and Precautions for Firefighters

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. Collect spillage. Prevent entry into waterways, sewers, basements, or confined areas.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Use only outdoors or in a well-ventilated area. Avoid breathing gas. Wash thoroughly after handling.

Conditions for Safe Storage, Including any Incompatibilities

Store locked up.

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

Store in accordance with all current regulations and standards. Avoid heat, flames, sparks and other sources of ignition. 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

Hydrogen sulfide	7783-06-4
ACGIH:	1 ppm TWA
	5 ppm STEL
NIOSH:	10 ppm Ceiling 10 min ; 15 mg/m ³ Ceiling 10 min
	100 ppm IDLH
Europe:	5 ppm TWA ; 7 mg/m ³ TWA
	10 ppm STEL ; 14 mg/m ³ STEL
OSHA (US):	20 ppm Ceiling
Mexico:	10 ppm TWA VLE-PPT ; 14 mg/m ³ TWA VLE-PPT



Safety Data Sheet

Material Name: ≤6.7% Hydrogen Sulfide in Nitrogen**SDS ID: 00244711**

	15 ppm STEL [PPT-CT]; 21 mg/m3 STEL [PPT-CT]
Nitrogen	7727-37-9
ACGIH:	(See Appendix F: Minimal Oxygen Content)

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

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

Engineering Controls

Provide local exhaust or process enclosure ventilation system. 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

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



Safety Data Sheet

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Physical Form	Compressed gas	Molecular Weight	Not available
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Section 10 - STABILITY AND REACTIVITY

Reactivity

No reactivity hazard is expected

Chemical Stability

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, changes in blood pressure, nausea, vomiting, difficulty breathing, headache, drowsiness, dizziness, disorientation, hallucinations, pain in extremities, tremors, visual disturbances, suffocation, lung congestion, internal bleeding, heart disorders, nerve damage, respiratory system damage, cardiovascular system damage, brain damage, convulsions, coma, tingling sensation, loss of coordination

Skin Contact

frostbite

Eye Contact

frostbite

Ingestion

Ingestion of a gas 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/m³ 4 h

Product Toxicity Data

Acute Toxicity Estimate

No data available.

Immediate Effects

frostbite, suffocation, cardiovascular system effects, central nervous system effects, respiratory system effects

Delayed Effects

nervous system damage, respiratory system damage

Irritation/Corrosivity Data

No data available.

Respiratory Sensitization

No data available.

Dermal Sensitization

No data available.

Component Carcinogenicity



Safety Data Sheet

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SDS ID: 00244711

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

Reproductive Toxicity

No data available.

Specific Target Organ Toxicity - Single Exposure

Cardiovascular system, central nervous system, respiratory system

Specific Target Organ Toxicity - Repeated Exposure

respiratory system nervous system,

Aspiration hazard

No data available.

Medical Conditions Aggravated by Exposure

No data available.

Section 12 - ECOLOGICAL INFORMATION

Component Analysis - Aquatic Toxicity

Hydrogen sulfide	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 mixture.

Bioaccumulative Potential

No information available for the mixture.

Mobility

No information available for the mixture.

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, N.O.S. , (Contains: Hydrogen sulfide , Nitrogen)

Hazard Class: 2.2

UN/NA #: UN1956

Required Label(s): 2.2

IMDG Information:

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

Hazard Class: 2.2

UN#: UN1956

Required Label(s): 2.2

International Bulk Chemical Code



Safety Data Sheet

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SDS ID: 00244711

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

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.

Hydrogen sulfide	7783-06-4
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

Gas Under Pressure; Specific Target Organ Toxicity; 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
Hydrogen sulfide	7783-06-4	Yes	Yes	Yes	Yes	Yes
Nitrogen	7727-37-9	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

Hydrogen sulfide	7783-06-4
	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



Safety Data Sheet

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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	No	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes

Section 16 - OTHER INFORMATION**NFPA Ratings**

Health: 2 Fire: 0 Reactivity: 0

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

Summary of Changes

New SDS: 12/14/2015

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**Disclaimer:**



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