



MATHESON

ask...The Gas Professionals™

Safety Data Sheet

Material Name: Argon/Hydrogen Gas Mixture

SDS ID: 00244384

Section 1 - IDENTIFICATION

Manufacturer Information

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)

Product Identifier: Argon/Hydrogen Gas Mixture

Product Use

industrial

Restrictions on Use

None known.

Section 2 - HAZARDS IDENTIFICATION

GHS Classification

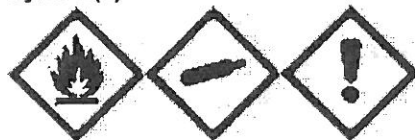
Flammable gas, Category 1

Gas under pressure, Compressed gas

Acute Toxicity (Inhalation), Category 4

GHS LABEL ELEMENTS

Symbol(s)



Signal Word

DANGER

Hazard Statement(s)

Extremely flammable gas

Contains gas under pressure; may explode if heated

Harmful if inhaled

Precautionary Statement(s)

Prevention

Keep away from heat, sparks, open flame, and hot surfaces - No smoking. Avoid breathing gas. Use only outdoors or in a well-ventilated area.

Response

Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Storage

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

Other Hazards which do not Result in Classification

May cause asphyxia. May cause frostbite upon sudden release of compressed gas.

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Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS#	Component	Percent
1333-74-0	Hydrogen	2.93-99
7440-37-1	Argon	1-97.07

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

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

Ingestion

If a large amount is swallowed, get medical attention.

Note to Physicians

For inhalation, consider oxygen.

Symptoms: Immediate

suffocation, frostbite

Symptoms: Delayed

No information on significant adverse effects.

Section 5 - FIRE FIGHTING MEASURES

See Section 9 for Flammability Properties

Specific Hazards Arising from the Chemical

Severe fire hazard. Severe explosion hazard. Vapor/air mixtures are explosive. Vapors or gases may ignite at distant ignition sources and flash back. Containers may rupture or explode if exposed to heat. Electrostatic discharges may be generated by flow or agitation resulting in ignition or explosion. Burns with invisible flame.

Extinguishing Media

regular dry chemical, carbon dioxide

Unsuitable Extinguishing Media

Water may be ineffective.

Protective Equipment and Precautions for Firefighters

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

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Fire Fighting Measures

Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. 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: Stop leak if possible without personal risk. Let burn unless leak can be stopped immediately. For smaller tanks or cylinders, extinguish and isolate from other flammables. Evacuation radius: 800 meters (1/2 mile). Do not attempt to extinguish fire unless flow of material can be stopped first. Flood with fine water spray. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Evacuate if fire gets out of control or containers are directly exposed to fire. Evacuation radius: 500 meters (1/3 mile). Consider downwind evacuation if material is leaking. Stop flow of gas.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions

Wear personal protective clothing and equipment, see Section 8.

Environmental Precautions

Avoid release to the environment.

Methods for Containment

Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Keep unnecessary people away, isolate hazard area and deny entry. Remove sources of ignition. Ventilate closed spaces before entering.

Cleanup Methods

Avoid heat, flames, sparks and other sources of ignition. Do not touch spilled material. Stop leak if possible without personal risk. Reduce vapors with water spray.

Section 7 - HANDLING AND STORAGE

Handling Procedures

Wash thoroughly after handling. When using, do not eat, drink or smoke.

Storage Procedures

Store and handle in accordance with all current regulations and standards. Cylinders should be stored upright (with valve protection cap in place). Avoid heat, flames, sparks and other sources of ignition. Store in a dry place. Store in a well-ventilated area. Protect from sunlight. Store below 52 C. See original container for storage recommendations. Keep separated from incompatible substances.

Incompatibilities combustible materials, halocarbons, halogens, metal oxides, metal salts, metals, oxidizing materials

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Hydrogen (1333-74-0)

ACGIH: Simple asphyxiant (See Appendix F: Minimal Oxygen Content)

Argon (7440-37-1)

ACGIH: Simple asphyxiant (See Appendix F: Minimal Oxygen Content)

Component Biological Limit Values

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

Engineering Controls

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

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PERSONAL PROTECTIVE EQUIPMENT

Eyes/Face

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.

Protective Clothing

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

Glove Recommendations

For the gas: Wear appropriate chemical resistant gloves. For the liquid: Wear insulated gloves.

Respiratory Protection

Under conditions of frequent use or heavy exposure, respiratory protection may be needed.

Respiratory protection is ranked in order from minimum to maximum.

Consider warning properties before use.

For Unknown Concentrations or Immediately Dangerous to Life or Health -

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Gas	Appearance:	Colorless gas
Color:	colorless	Physical Form:	compressed gas
Odor:	odorless	Odor Threshold:	Not available
pH:	Not available	Melting/Freezing Point:	-259.2 °C (hydrogen)
Boiling Point:	-252.8 °C (hydrogen)	Flash Point:	flammable gas
Decomposition:	Not available	Evaporation Rate:	Not available
LEL:	4.0 % (hydrogen)	UEL:	75 % (hydrogen)
Vapor Pressure:	760 mmHg @ -253 °C (hydrogen)	Vapor Density (air = 1):	0.07 (hydrogen)
Density:	0.00521 lb/ft3 (hydrogen)	Specific Gravity (water=1):	0.06860 (hydrogen)
Water Solubility:	0.019 (hydrogen)	Log KOW:	Not available
Auto Ignition:	500 °C (hydrogen)	Viscosity:	0.008957 cP @26.8 °C (hydrogen)

Section 10 - STABILITY AND REACTIVITY

Reactivity

No reactivity hazard is expected.

Chemical Stability

Stable at normal temperatures and pressure.

Conditions to Avoid

Avoid heat, flames, sparks and other sources of ignition. Minimize contact with material. Containers may rupture or explode if exposed to heat.

Possibility of Hazardous Reactions

Will not polymerize.

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Incompatible Materials

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

Decomposition Products

miscellaneous decomposition products

Section 11 - TOXICOLOGICAL INFORMATION

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 (1333-74-0)

Inhalation LC50 Rat >15000 ppm 1 h

RTECS Acute Toxicity (selected)

The components of this material have been reviewed and RTECS publishes no data as of the date on this document.

Immediate Effects

suffocation, frostbite

Delayed Effects

No information on significant adverse effects.

Irritation/Corrosivity Data

See component data.

RTECS Irritation

The components of this material have been reviewed and RTECS publishes no data as of the date on this document.

Respiratory Sensitizer

No data available.

Dermal Sensitizer

No data available.

Carcinogenicity

Component Carcinogenicity

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

Mutagenic Data

No data available for the mixture.

RTECS Mutagenic

The components of this material have been reviewed, and RTECS publishes data for one or more components.

Reproductive Effects Data

No data available for the mixture.

Tumorigenic Data

No data available for the mixture.

RTECS Tumorigenic

The components of this material have been reviewed, and RTECS publishes data for one or more components.

Specific Target Organ Toxicity - Single Exposure

No data available.

Specific Target Organ Toxicity - Repeated Exposure

No data available.

Aspiration Hazard

Not applicable.

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Medical Conditions Aggravated by Exposure
respiratory disorders

Section 12 - ECOLOGICAL INFORMATION

Component Analysis - Aquatic Toxicity

No LOEL ecotoxicity data are available for this product's components.

Persistence and Degradability

This gas will be dissipated rapidly in well ventilated areas.

Bioaccumulative Potential

No data available for the mixture.

Mobility in Environmental Media

No data available for the mixture.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262.
Hazardous Waste Number(s): D001.

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, Argon)

UN/NA #: UN1954 **Hazard Class:** 2.1

Required Label(s): 2.1

IMDG Information

Shipping Name: Compressed gas, flammable, n.o.s. (Contains: Hydrogen, Argon)

UN #: UN1954 **Hazard Class:** 2.1

Required Label(s): 2.1

Section 15 - REGULATORY INFORMATION

Component Analysis

U.S. Federal Regulations

None of this products components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

SARA 311/312 Hazardous Categories

Acute Health: Yes **Chronic Health:** No **Fire:** Yes **Pressure:** Yes **Reactive:** No

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	1333-74-0	Yes	Yes	Yes	Yes	Yes
Argon	7440-37-1	No	Yes	Yes	Yes	Yes

Not regulated under California Proposition 65

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Component Analysis - Inventory

Component	CAS	US	CA	EU	AU	PH	JP	KR	CN	NZ
Hydrogen	1333-74-0	Yes	DSL	EIN	Yes	Yes	No	Yes	Yes	Yes
Argon	7440-37-1	Yes	DSL	EIN	Yes	Yes	No	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

New SDS: 3/7/2011

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; RID - European Rail Transport; RTECS - Registry of Toxic Effects of Chemical Substances®; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

Other Information

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End of Sheet 00244384

15830 REDLAND ROAD
PO BOX 5507
ROCKVILLE, MD 20855
(301) 948-8100

ROBERTS
OXYGEN

Customer 84714
Date 12/22/14

RECEIVED
DEC 29 2014

Karen?

SOLD TO
M G NEWELL CORPORATION
ATTN ACCOUNTS PAYABLE
P O BOX 18765
GREENSBORO, NC 27419-8765

SHIP TO
M G NEWELL CORPORATION
301 CITATION COURT
GREENSBORO, NC 27409

Dear Customer,

Enclosed you will find Material Safety Data Sheets 'MSDS' for products you purchased. These MSDS sheets are being provided to you in order to meet our obligation under Federal and State laws. Below are the products you purchased corresponding to the enclosed MSDS Sheets.

DELIVERY				
DATE	INVOICE	ITEM NUMBER	DESCRIPTION	MSDS#
12/22/14	117260	R144	H2-ARGON GAS MIXTURE SIZE 200 04,07	

You may have an obligation to inform and train your employees about hazardous materials in their workplace. These MSDS Sheets may help you inform your employees about the products listed above.

Please note: The MSDS Sheets are copies of what has been provided to us by the manufacturers. Accordingly, we believe the information is reliable, but we do not represent or guarantee that they are complete or accurate.

