

## Safety Data Sheet

**Section 1: Identification of the Substance/Mixture and of the Company/Undertaking****1.1 Product identifier**

<b>Product Name</b>	• <b>Germane</b>
<b>Synonyms</b>	• Germanium Hydride; Germanium Tetrahydride; Monogermane
<b>CAS Number</b>	• 7782-65-2
<b>Product Code</b>	• 20087
<b>EC Number</b>	• 231-961-6
<b>Molecular Formula</b>	• :H 4:Ge 1:

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

<b>Relevant identified use(s)</b>	• Semiconductor Uses
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**1.3 Details of the supplier of the safety data sheet**

<b>Manufacturer</b>	• Air Liquide 2700 Post Oak Blvd. Houston, TX 77056 United States www.us.airliquide.com sds@airliquide.com
<b>Telephone (Technical)</b>	• 713-896-2896
<b>Telephone (Technical)</b>	• 800-819-1704

**1.4 Emergency telephone number**

<b>Manufacturer</b>	• 800-424-9300 - CHEMTREC
<b>Manufacturer</b>	• +1 703-527-3887 - Outside United States

**Section 2: Hazards Identification****EU/EEC**

According to Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]  
According to EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

**2.1 Classification of the substance or mixture**

<b>CLP</b>	• Compressed Gas - H280 Acute Toxicity Inhalation 2 - H330 Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation - H335 Specific Target Organ Toxicity Repeated Exposure 1 - H372
<b>DSD/DPD</b>	• Extremely Flammable (F+) Toxic (T) Irritant (Xi) Harmful (Xn) R12, R17, R23, R37, R48/23

**2.2 Label Elements**

## CLP

### DANGER



- Hazard statements**
- H280 - Contains gas under pressure; may explode if heated
  - H330 - Fatal if inhaled
  - H335 - May cause respiratory irritation
  - H372 - Causes damage to organs - blood, liver, and kidney through prolonged or repeated exposure

### Precautionary statements

- Prevention**
- P260 - Do not breathe gas.
  - P264 - Wash thoroughly after handling.
  - P270 - Do not eat, drink or smoke when using this product.
  - P271 - Use only outdoors or in a well-ventilated area.
  - P284 - Wear respiratory protection.
- Response**
- P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
  - P320 - Specific treatment is urgent, see supplemental first aid information.
  - P310 - Immediately call a POISON CENTER or doctor/physician.
  - P314 - Get medical advice/attention if you feel unwell.

- Storage/Disposal**
- P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
  - P405 - Store locked up.
  - P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

## DSD/DPD



- Risk phrases**
- R12 - Extremely flammable.
  - R17 - Spontaneously flammable in air.
  - R23 - Toxic by inhalation.
  - R37 - Irritating to respiratory system.
  - R48/23 - Toxic: danger of serious damage to health by prolonged exposure through inhalation.

- Safety phrases**
- S9 - Keep container in a well ventilated place
  - S16 - Keep away from sources of ignition - No Smoking.
  - S37 - Wear suitable gloves.
  - S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

## 2.3 Other Hazards

### CLP

- This material is a Pyrophoric gas and is spontaneously flammable in air. According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.

### DSD/DPD

- This product is considered dangerous according to the European Directive 67/548/EEC.

## United States (US)

According to OSHA 29 CFR 1910.1200 HCS

## 2.1 Classification of the substance or mixture

### OSHA HCS 2012

- Flammable Gases 1 - H220
- Compressed Gas - H280
- Acute Toxicity Inhalation 2 - H330
- Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation - H335

Specific Target Organ Toxicity Repeated Exposure 1 - H372

## 2.2 Label elements

OSHA HCS 2012

### DANGER



- Hazard statements**
- Extremely flammable gas - H220
  - Contains gas under pressure; may explode if heated - H280
  - Fatal if inhaled - H330
  - May cause respiratory irritation - H335
  - Causes damage to organs - blood, liver, and kidney through prolonged or repeated exposure - H372

### Precautionary statements

- Prevention**
- Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking. - P210
  - Do not breathe gas. - P260
  - Wash thoroughly after handling. - P264
  - Do not eat, drink or smoke when using this product. - P270
  - Use only outdoors or in a well-ventilated area. - P271
  - Wear respiratory protection. - P284
- Response**
- Leaking gas fire: Do not extinguish, unless leak can be stopped safely. - P377
  - Eliminate all ignition sources if safe to do so. - P381
  - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. - P304+P340
  - Specific treatment is urgent, see supplemental first aid information. - P320
  - Immediately call a POISON CENTER or doctor/physician. - P310
  - Get medical advice/attention if you feel unwell. - P314
- Storage/Disposal**
- Store in a well-ventilated place. Keep container tightly closed. - P403+P233
  - Store locked up. - P405
  - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. - P501

## 2.3 Other hazards

OSHA HCS 2012

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

## Canada

According to WHMIS

### 2.1 Classification of the substance or mixture

WHMIS

- Compressed Gas - A
- Reactive Flammable Materials - B6
- Very Toxic - D1A

### 2.2 Label elements

WHMIS



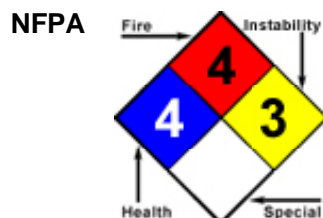
- Compressed Gas - A
- Reactive Flammable Materials - B6
- Very Toxic - D1A

### 2.3 Other hazards

WHMIS

- In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

## 2.4 Other information



## Section 3 - Composition/Information on Ingredients

### 3.1 Substances

Composition				
Chemical Name	Identifiers	%	LD50/LC50	Classifications According to Regulation/Directive
Germane	CAS:7782-65-2 EINECS:231-961-6	> 99%	Inhalation-Rat LC50 • 1380 mg/m <sup>3</sup>	EU DSD/DPD: Self Classified - R17; F+, R12; T R23; Xi R37; Xn R48/23; EU CLP: Self Classified - Press Gas - Comp, H280; STOT RE 1- Blood, Liver, Kidney, H372; STOT SE 3: Resp. Irrit., H335; Acute Tox. 2, H330 OSHA HCS 2012: Pyr. Gas; Flam. Gas 1; Press. Gas - Comp.; STOT RE 1- Blood, Liver, Kidney; STOT SE 3 - Resp. Irrit.; Acute Tox. 2 (inhl);

### 3.2 Mixtures

- Material does not meet the criteria of a mixture in accordance with Regulation (EC) No 1272/2008.

## Section 4 - First Aid Measures

### 4.1 Description of first aid measures

#### Inhalation

- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.

#### Skin

- Although exposure is unlikely, in case of contact immediately flush skin with running water. If skin irritation develops get medical advice/attention.

#### Eye

- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. If eye irritation persists: Get medical advice/attention.

#### Ingestion

- Ingestion is not considered a potential route of exposure.

### 4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

### 4.3 Indication of any immediate medical attention and special treatment needed

#### Notes to Physician

- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

### 4.4 Other information

- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. RESCUERS SHOULD NOT ATTEMPT TO RETRIEVE VICTIMS OF EXPOSURE TO GASES WITHOUT ADEQUATE PERSONAL PROTECTIVE EQUIPMENT. At a minimum, Self-Contained Breathing

Apparatus must be worn. Victim(s) who experience any adverse effect after over-exposure to this gas mixture must be taken for medical attention. Rescuers should be taken for medical attention if necessary. Take a copy of the label and the MSDS to physician or other health professional with victim(s).

## Section 5 - Firefighting Measures

### 5.1 Extinguishing media

**Suitable Extinguishing Media** • SMALL FIRES: Dry chemical or CO<sub>2</sub>.  
LARGE FIRES: Water spray or fog.

**Unsuitable Extinguishing Media** • No data available

### 5.2 Special hazards arising from the substance or mixture

**Unusual Fire and Explosion Hazards** • EXTREMELY FLAMMABLE  
Will form explosive mixtures with air.  
May ignite spontaneously if exposed to air.  
Vapors may travel to source of ignition and flash back.  
Cylinders exposed to fire may vent and release flammable gas through pressure relief devices.  
Containers may explode when heated.  
Ruptured cylinders may rocket.

**Hazardous Combustion Products** • No data available

### 5.3 Advice for firefighters

- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.  
Wear positive pressure self-contained breathing apparatus (SCBA).  
**DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED**  
Move containers from fire area if you can do it without risk.  
**FIRE:** If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions.  
**FIRE INVOLVING TANKS:** ALWAYS stay away from tanks engulfed in fire.  
**FIRE INVOLVING TANKS:** Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.  
**FIRE INVOLVING TANKS:** Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.  
**FIRE INVOLVING TANKS:** Cool containers with flooding quantities of water until well after fire is out.  
**FIRE INVOLVING TANKS:** Do not direct water at source of leak or safety devices; icing may occur.  
**FIRE INVOLVING TANKS:** For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

## Section 6 - Accidental Release Measures

### 6.1 Personal precautions, protective equipment and emergency procedures

**Personal Precautions** • Ventilate the area before entry. Do not walk through spilled material. Wear appropriate personal protective equipment, avoid direct contact. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

**Emergency Procedures** • ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. Stop leak if you can do it without risk. Keep unauthorized personnel away. Keep out of low areas. Stay upwind. **LARGE SPILL:** Consider initial downwind evacuation for at least 800 meters (1/2 mile)

### 6.2 Environmental precautions

- Prevent spreading of vapors through sewers, ventilation systems and confined areas.

### 6.3 Methods and material for containment and cleaning up

#### Containment/Clean-up Measures

- All equipment used when handling the product must be grounded. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Do not direct water at spill or source of leak. Isolate area until gas has dispersed.

### 6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

## Section 7 - Handling and Storage

### 7.1 Precautions for safe handling

#### Handling

- Keep away from heat and ignition sources – No Smoking. Take precautionary measures against static charges. All equipment used when handling the product must be grounded. Use only non-sparking tools. Use only with adequate ventilation. Ventilate closed spaces before entering. Wear appropriate personal protective equipment, avoid direct contact. Do not breathe gas. Cylinders should be firmly secured to prevent falling or being knocked-over. Use explosion-proof - electrical, ventilating and/or lighting equipment. Do not attempt to repair, adjust, or in any other way modify cylinders. If there is a malfunction or another type of operational problem, contact nearest distributor immediately. Empty containers retain product residue and can be hazardous. Do not cut, weld, puncture or incinerate container.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Storage

- Cylinders should be stored in dry, well-ventilated areas away from sources of heat, ignition and direct sunlight. Do not allow area where cylinders are stored to exceed 52C (125F). Cylinders must be protected from the environment, and preferably kept at room temperature approximately 21C (70F). Protect cylinders against physical damage. Cylinders should be firmly secured to prevent falling or being knocked-over. Store locked up.

### 7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

## Section 8 - Exposure Controls/Personal Protection

### 8.1 Control parameters

Exposure Limits/Guidelines						
	Result	ACGIH	Canada Ontario	Canada Quebec	China	France
Germane (7782-65-2)	STELs	Not established	Not established	Not established	1.8 mg/m3 STEL	Not established
	TWAs	0.2 ppm TWA	0.2 ppm TWA	0.2 ppm TWAEV; 0.63 mg/m3 TWAEV	0.6 mg/m3 TWA	0.2 ppm TWA [VME]; 0.6 mg/m3 TWA [VME]
Exposure Limits/Guidelines (Con't.)						
	Result	Ireland	Israel	NIOSH	OSHA Vacated	Portugal
Germane (7782-65-2)	TWAs	0.2 ppm TWA; 0.6 mg/m3 TWA	0.2 ppm TWA	0.2 ppm TWA; 0.6 mg/m3 TWA	0.2 ppm TWA; 0.6 mg/m3 TWA	0.2 ppm TWA [VLE-MP]
	STELs	0.6 ppm STEL; 1.8 mg/m3 STEL	Not established	Not established	Not established	Not established

**Exposure Limits/Guidelines (Con't.)**

	Result	Spain
Germane (7782-65-2)	TWAs	0.2 ppm TWA [VLA-ED]; 0.64 mg/m <sup>3</sup> TWA [VLA-ED]

**8.2 Exposure controls****Engineering Measures/Controls**

- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Use explosion-proof - electrical, ventilating and/or lighting equipment.

**Personal Protective Equipment****Respiratory**

- In case of insufficient ventilation, wear suitable respiratory equipment. 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 symptoms are experienced.

**Eye/Face**

- Wear safety glasses.

**Skin/Body**

- Wear leather gloves when handling cylinders.

**Environmental Exposure Controls**

- Follow best practice for site management and disposal of waste. Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

**Key to abbreviations**

ACGIH = American Conference of Governmental Industrial Hygiene

NIOSH = National Institute of Occupational Safety and Health

OSHA = Occupational Safety and Health Administration

STEL = Short Term Exposure Limits are based on 15-minute exposures

TWA EV = Time-Weighted Average Exposure Value

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

**Section 9 - Physical and Chemical Properties****9.1 Information on Physical and Chemical Properties**

Material Description			
Physical Form	Gas	Appearance/Description	Colorless gas with pungent odor.
Color	Colorless	Odor	Pungent
Odor Threshold	Data lacking		
General Properties			
Boiling Point	-127 F(-88.3333 C)	Melting Point	-267 F(-166.1111 C)
Decomposition Temperature	Data lacking	pH	Data lacking
Specific Gravity/Relative Density	Data lacking	Water Solubility	Insoluble
Viscosity	Data lacking	Explosive Properties	Data lacking
Oxidizing Properties:	Data lacking		
Volatility			
Vapor Pressure	> 1 atm	Vapor Density	Data lacking
Evaporation Rate	Data lacking		
Flammability			
Flash Point	Data lacking	UEL	Data lacking
LEL	Data lacking	Autoignition	Data lacking
Flammability (solid, gas)	Flammable gas.		
Environmental			
Octanol/Water Partition coefficient	Data lacking	Degradation	Data lacking

**9.2 Other Information**

- No additional physical and chemical parameters noted.

## Section 10: Stability and Reactivity

### 10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

### 10.2 Chemical stability

- Stable under normal temperatures and pressures.

### 10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

### 10.4 Conditions to avoid

- Excess heat, sparks, open flame.

### 10.5 Incompatible materials

- Air, halogens, oxidizing agents.

### 10.6 Hazardous decomposition products

- Hydrogen gas, Germanium dioxide particles.

## Section 11 - Toxicological Information

### 11.1 Information on toxicological effects

Components		
Germane (> 99%)	7782-65-2	<b>Acute Toxicity:</b> Inhalation-Rat LC50 • 1380 mg/m <sup>3</sup> ; <i>Behavioral:Coma; Brain and Coverings:Other degenerative changes</i>

GHS Properties	Classification
Acute toxicity	EU/CLP • Acute Toxicity - Inhalation 2 OSHA HCS 2012 • Acute Toxicity - Inhalation 2
Aspiration Hazard	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Carcinogenicity	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Germ Cell Mutagenicity	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Skin corrosion/Irritation	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Skin sensitization	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
STOT-RE	EU/CLP • Specific Target Organ Toxicity Repeated Exposure 1 OSHA HCS 2012 • Specific Target Organ Toxicity Repeated Exposure 1
STOT-SE	EU/CLP • Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation  OSHA HCS 2012 • Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation

<b>Toxicity for Reproduction</b>	<b>EU/CLP</b> • Classification criteria not met <b>OSHA HCS 2012</b> • Classification criteria not met
<b>Respiratory sensitization</b>	<b>EU/CLP</b> • Classification criteria not met <b>OSHA HCS 2012</b> • Classification criteria not met
<b>Serious eye damage/Irritation</b>	<b>EU/CLP</b> • Classification criteria not met <b>OSHA HCS 2012</b> • Classification criteria not met

## Potential Health Effects

### Inhalation

- Acute (Immediate)** • Fatal if inhaled. May cause respiratory irritation.
- Chronic (Delayed)** • No data available

### Skin

- Acute (Immediate)** • Under normal conditions of use, no health effects are expected.
- Chronic (Delayed)** • No data available

### Eye

- Acute (Immediate)** • Under normal conditions of use, no health effects are expected.
- Chronic (Delayed)** • No data available

### Ingestion

- Acute (Immediate)** • Ingestion is not anticipated to be a likely route of exposure to this product.
- Chronic (Delayed)** • No data available

### Other

- Chronic (Delayed)** • May cause damage to blood, liver, kidneys through prolonged or repeated exposure.

#### Key to abbreviations

LC = Lethal Concentration

## Section 12 - Ecological Information

### 12.1 Toxicity

- Material data lacking.

### 12.2 Persistence and degradability

- Material data lacking.

### 12.3 Bioaccumulative potential

- Material data lacking.

### 12.4 Mobility in Soil

- Material data lacking.

### 12.5 Results of PBT and vPvB assessment

- No PBT and vPvB assessment has been conducted.

### 12.6 Other adverse effects

- No studies have been found.

## Section 13 - Disposal Considerations

### 13.1 Waste treatment methods

**Product waste**

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

**Packaging waste**

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

## Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	UN2192	Germane	2.1,2.3	NDA	NDA
TDG	UN2192	GERMANE	2.1,2.3	NDA	NDA
IMO/IMDG	UN2192	GERMANE	2.1,2.3	NDA	NDA
IATA/ICAO	NDA	Forbidden	NDA	NDA	NDA

**14.6 Special precautions for user**

- Cylinders should be transported in a secure position, in a well-ventilated vehicle. The transportation of compressed gas cylinders in automobiles or in closed-body vehicles can present serious safety hazards. If transporting these cylinders in vehicles, ensure these cylinders are not exposed to extremely high temperatures (as may occur in an enclosed vehicle on a hot day). Additionally, the vehicle should be well-ventilated during transportation.

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

- Not relevant.

**14.8 Other information**

- DOT** • Special Provision 2 Toxic-Inhalation Hazard Zone B
- IATA/ICAO** • Forbidden to be shipped via Air Transport.

## Section 15 - Regulatory Information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**SARA Hazard Classifications** • Acute, Chronic, Fire, Pressure(Sudden Release of)

State Right To Know				
Component	CAS	MA	NJ	PA
Germane	7782-65-2	Yes	Yes	Yes

Inventory						
Component	CAS	Canada DSL	Canada NDSL	China	EU EINECS	EU ELNICS
Germane	7782-65-2	Yes	No	Yes	Yes	No

Inventory (Con't.)		
Component	CAS	TSCA
Germane	7782-65-2	Yes

### Canada

**Labor**
**Canada - WHMIS - Classifications of Substances**

- Germane

7782-65-2 A, B6, D1A

**Canada - WHMIS - Ingredient Disclosure List**

- Germane

7782-65-2

1 %

**Environment****Canada - CEPA - Priority Substances List**

- Germane

7782-65-2

Not Listed

**China****Environment****China - Ozone Depleting Substances - First Schedule**

- Germane

7782-65-2

Not Listed

**China - Ozone Depleting Substances - Second Schedule**

- Germane

7782-65-2

Not Listed

**China - Ozone Depleting Substances - Third Schedule**

- Germane

7782-65-2

Not Listed

**Other****China - Annex I & II - Controlled Chemicals Lists**

- Germane

7782-65-2

Not Listed

**China - Dangerous Goods List**

- Germane

7782-65-2

**China - Export Control List - Part I Chemicals**

- Germane

7782-65-2

Not Listed

**Europe****Other****EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification**

- Germane

7782-65-2

Not Listed

**EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits**

- Germane

7782-65-2

Not Listed

**EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling**

- Germane

7782-65-2

Not Listed

**EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations**

- Germane

7782-65-2

Not Listed

**EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases**

- Germane

7782-65-2

Not Listed

**Germany****Environment****Germany - TA Luft - Types and Classes**

- Germane

7782-65-2

Not Listed

**Germany - Water Classification (VwVwS) - Annex 1**

- Germane

7782-65-2

Not Listed

**Germany - Water Classification (VwVwS) - Annex 2 - Water Hazard Classes**

• Germane	7782-65-2	Not Listed
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**Germany - Water Classification (VwVwS) - Annex 3**

• Germane	7782-65-2	Not Listed
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**Other****Germany - Specifically Regulated Chemicals in TRGS**

• Germane	7782-65-2	Not Listed
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**Portugal****Other****Portugal - Prohibited Substances**

• Germane	7782-65-2	Not Listed
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**United Kingdom****Environment****United Kingdom - Pollution Inventory - Schedule 1 - Thresholds for Releases to Air**

• Germane	7782-65-2	Not Listed
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**Other****United Kingdom - Workplace Exposure Limits (WELs) - Substances in Review**

• Germane	7782-65-2	Not Listed
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**United Kingdom - List of Dangerous Substances in Water**

• Germane	7782-65-2	Not Listed
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**United States****Labor****U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals**

• Germane	7782-65-2	Not Listed
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**U.S. - OSHA - Specifically Regulated Chemicals**

• Germane	7782-65-2	Not Listed
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**Environment****U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants**

• Germane	7782-65-2	Not Listed
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**U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities**

• Germane	7782-65-2	Not Listed
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**U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities**

• Germane	7782-65-2	Not Listed
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**U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs**

• Germane	7782-65-2	Not Listed
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**U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs**

• Germane	7782-65-2	Not Listed
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**U.S. - CERCLA/SARA - Section 313 - Emission Reporting**

• Germane	7782-65-2	Not Listed
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**U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing**

• Germane	7782-65-2	Not Listed
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**United States - California****Environment****U.S. - California - Proposition 65 - Carcinogens List**

• Germane	7782-65-2	Not Listed
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**U.S. - California - Proposition 65 - Developmental Toxicity**

• Germane	7782-65-2	Not Listed
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**U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)**

• Germane	7782-65-2	Not Listed
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**U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)**

• Germane	7782-65-2	Not Listed
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**U.S. - California - Proposition 65 - Reproductive Toxicity - Female**

• Germane	7782-65-2	Not Listed
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**U.S. - California - Proposition 65 - Reproductive Toxicity - Male**

• Germane	7782-65-2	Not Listed
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**United States - Pennsylvania****Labor****U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List**

• Germane	7782-65-2	Not Listed
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**U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances**

• Germane	7782-65-2	Not Listed
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**15.2 Chemical Safety Assessment**

- No Chemical Safety Assessment has been carried out.

**Section 16 - Other Information****Last Revision Date**

- 16/October/2014

**Preparation Date**

- 16/October/2014

**Disclaimer/Statement of Liability**

- To the best of Air Liquide's knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness are not guaranteed and no warranties of any type, either express or implied, are provided. The information contained herein relates only to this specific product. If this gas mixture is combined with other materials, all component properties must be considered. Data may be changed from time to time. Be sure to consult the latest edition.

**Key to abbreviations**

NDA = No Data Available