

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form	: Substance
Substance name	: Steam
CAS No	: 7732-18-5
Product code	: SG-1001-02371
Formula	: H2O
Other means of identification	: Super-Heated Water

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

Use of the substance/mixture	: Manufacture of substances
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#### 1.3. Details of the supplier of the safety data sheet

Air Liquide  
2700 Post Oak Boulevard  
Houston, TX 77056 - USA  
T 1-800-819-1704  
[www.us.airliquide.com](http://www.us.airliquide.com)

#### 1.4. Emergency telephone number

Emergency number	: CHEMTREC: 1-800-424-9300
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### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification (GHS-US)

Compressed gas H280

Full text of H-phrases: see section 16

#### 2.2. Label elements

##### GHS-US labeling

Hazard pictograms (GHS-US)



GHS04

Signal word (GHS-US)	: Warning
Hazard statements (GHS-US)	: H280 - Contains gas under pressure; may explode if heated H314 - Causes severe skin burns and eye damage
Precautionary statements (GHS-US)	: P202 - Do not handle until all safety precautions have been read and understood P261 - Avoid breathing vapors P280 - Wear eye protection, face protection, protective clothing, protective gloves P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing P308+P313 - If exposed or concerned: Get medical advice/attention CGA-PG05 - Use a back flow preventive device in the piping CGA-PG14 - Approach suspected leak area with caution CGA-PG21 - Open valve slowly

#### 2.3. Other hazards

Other hazards not contributing to the classification	: Thermal hazards. The product is supplied at either 175 psi and 420 F or 820 psi and 750 F. Causes severe burns.
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#### 2.4. Unknown acute toxicity (GHS US)

Not applicable

### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

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Name	Product identifier	%	Classification (GHS-US)
Steam (Main constituent)	(CAS No) 7732-18-5	> 99.9	Compressed gas, H280

Full text of H-phrases: see section 16

### 3.2. Mixture

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

- First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.
- First-aid measures after skin contact : Get immediate medical advice/attention.
- First-aid measures after eye contact : Get immediate medical advice/attention.
- First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.

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

- Symptoms/injuries after inhalation : Causes burns to the respiratory system.
- Symptoms/injuries after skin contact : Causes severe burns.
- Symptoms/injuries after eye contact : Causes serious eye damage.
- Symptoms/injuries after ingestion : Ingestion is not considered a potential route of exposure.
- Symptoms/injuries upon intravenous administration : Not known.
- Chronic symptoms : Not known.

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

If you feel unwell, seek medical advice. If breathing is difficult, give oxygen.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.

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

- Fire hazard : The product is not flammable.
- Explosion hazard : Product is not explosive. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.
- Reactivity : None known.

### 5.3. Advice for firefighters

- Firefighting instructions : In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire.
- Protection during firefighting : Standard protective clothing and equipment (e.g., Self Contained Breathing Apparatus) for fire fighters. Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

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

- General measures : Ensure adequate ventilation.

#### 6.1.1. For non-emergency personnel

- Protective equipment : Wear protective equipment consistent with the site emergency plan.
- Emergency procedures : Escape the danger area by the closest safe route. Close doors and windows of adjacent premises. Keep containers closed. Mark the danger area. Seal off low-lying areas. Keep upwind.

#### 6.1.2. For emergency responders

- Protective equipment : Standard protective clothing and equipment (e.g., Self Contained Breathing Apparatus) for fire fighters. Equip cleanup crew with proper protection.
- Emergency procedures : Evacuate and limit access. Ventilate area.

### 6.2. Environmental precautions

Try to stop release if safe to do so.

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

For containment : Try to stop release if safe to do so.

### 6.4. Reference to other sections

See also Sections 8 and 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed : Avoid all contact with this product while heated.  
Precautions for safe handling : Open valves associated with piping system slowly. Pipes and process lines must be properly labeled. Valves should be tightly closed when system is not in use. All process lines, valves, and related equipment should be routinely inspected, undergo periodic maintenance, and checked to ensure equipment is properly labeled and not damaged.

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

Technical measures : Comply with applicable regulations.  
Incompatible products : None known.  
Incompatible materials : Avoid materials that are water-reactive.

### 7.3. Specific end use(s)

See Section 1.2.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Steam (7732-18-5)	
ACGIH	Not applicable
OSHA	Not applicable

### 8.2. Exposure controls

Appropriate engineering controls : Provide adequate general and local exhaust ventilation. Systems under pressure should be regularly checked for leakages. Consider work permit system e.g. for maintenance activities.  
Hand protection : Wear appropriate gloves to protect hands against identified workplace hazards.; 29 CFR 1910.138: Hand Protection.  
Eye protection : Wear safety glasses with side shields. 29 CFR 1910.133: Eye and Face Protection.  
Skin and body protection : Wear suitable protective clothing, e.g. - lab coats, coveralls or flame resistant clothing.  
Respiratory protection : None necessary during normal and routine operations. See Sections 5 & 6.  
Thermal hazard protection : Heat resistant gloves.  
Environmental exposure controls : None necessary.  
Other information : 29 CFR 1910.136: Foot Protection.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state : Gas  
Appearance : Clear, colorless gas.  
Color : Colorless  
Odor : Odorless  
Odor threshold : Odorless  
pH : 6 - 8  
Melting point : 0 °C  
Freezing point : 0 °C  
Boiling point : 100.02 °C  
Critical temperature : 373.85 °C  
Flash point : Not applicable - not flammable.  
Relative evaporation rate (butyl acetate=1) : No data available  
Flammability (solid, gas) : Not applicable - not flammable.  
Explosion limits : Not applicable - not flammable.  
Explosive properties : Not applicable - not flammable.

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Oxidizing properties	: None.
Vapor pressure	: No data available
Relative density	: No data available
Relative vapor density at 20 °C	: No data available
Specific gravity / density	: 1
Molecular mass	: 18.015 g/mol
Relative gas density	: No data available
Solubility	: No data available
Log Pow	: No data available
Log Kow	: No data available
Auto-ignition temperature	: Not applicable - not flammable.
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

None known.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

None known.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

Avoid materials that are water-reactive.

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

Steam (7732-18-5)	
LC50 inhalation rat (ppm)	820000 ppm/4h
ATE US (gases)	820000.000 ppmV/4h

Skin corrosion/irritation	: Not classified pH: 6 - 8
Serious eye damage/irritation	: Not classified pH: 6 - 8
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified

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Symptoms/injuries after inhalation	: Causes burns to the respiratory system.
Symptoms/injuries after skin contact	: Causes severe burns.
Symptoms/injuries after eye contact	: Causes serious eye damage.
Symptoms/injuries after ingestion	: Ingestion is not considered a potential route of exposure.
Symptoms/injuries upon intravenous administration	: Not known.
Chronic symptoms	: Not known.

### SECTION 12: Ecological information

#### 12.1. Toxicity

No additional information available

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

No additional information available

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Other adverse effects

Effect on ozone layer : No known effects from this product.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste treatment methods : Contact supplier if guidance is required. May be vented to atmosphere in a well ventilated place. Do not discharge into any place where its accumulation could be dangerous. Ensure that the emission levels from local regulations or operating permits are not exceeded.

### SECTION 14: Transport information

#### Department of Transportation (DOT)

In accordance with DOT

Not regulated for transport

#### Additional information

Other information : No supplementary information available.

#### ADR

No additional information available

#### Transport by sea

No additional information available

#### Air transport

No additional information available

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

##### Steam (7732-18-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### 15.2. International regulations

##### CANADA

##### Steam (7732-18-5)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification : Uncontrolled product according to WHMIS classification criteria

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### EU-Regulations

#### Steam (7732-18-5)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Not classified

### National regulations

#### Steam (7732-18-5)

Listed on the AICS (Australian Inventory of Chemical Substances)  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on the Korean ECL (Existing Chemicals List)  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

### 15.3. US State regulations

## SECTION 16: Other information

Indication of changes : Revised safety data sheet in accordance with OSHA final rule on GHS implementation promulgated March 26, 2012.

Other information : This Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR, 1910.1200. Other government regulations must be reviewed for applicability to this product.

Full text of H-phrases:

Compressed gas	Gases under pressure Compressed gas
H280	Contains gas under pressure; may explode if heated

SDS US (GHS HazCom 2012)

*This Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR, 1910.1200. Other government regulations must be reviewed for applicability to this product. To the best of Air Liquide America Corporation'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 product 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.*