

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

1.1 Product identifier

Xenon, compressed

Chemical formula	Xe
CAS number	7440-63-3
Transport identifier	UN 2036

1.2 Relevant identified uses

Industrial and professional uses in lighting, optical, laboratory, research and controlled process applications. Perform a task-specific risk assessment before use.

Uses advised against	Intentional inhalation and any use not supported by a task-specific risk assessment.
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1.3 Supplier

SG TRADING L.L.C-FZ

Address	Meydan Grandstand, 6th Floor, Meydan Road, Nad Al Sheba, Dubai, United Arab Emirates
Telephone	+971 4 422 4811
Email	info@sgtrading.biz
Website	https://www.sgtrading.biz

1.4 Emergency and safety contact (WhatsApp)

+1 832 525 5066, available 07:00–22:00 (UTC+3).

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Physical hazards Gases under pressure	Liquefied gas H280
Full text of H- and EUH-statements	see section 16

Adverse physicochemical, human health and environmental effects No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP] Hazard pictograms (CLP) :

GHS04

Signal word (CLP)	Warning
Hazard statements (CLP)	H280 - Contains gas under pressure; may explode if heated.

Precautionary statements (CLP)

- Storage : P403 - Store in a well-ventilated place.

Supplemental information	Asphyxiant in high concentrations.
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Gas cylinder

2.3. Other hazards

Other hazards	Contact with liquid may cause cold burns/frostbite. Not classified as PBT or vPvB. Not classified as PMT or vPvM . The substance/mixture has no endocrine disrupting properties.
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SECTION 3: Composition/information on ingredients

3.1. Substances

Name Product identifier % Classification according to Regulation (EC) No. 1272/2008 [CLP] ATE, EUH-statements, M-Factors

Xenon CAS-No.	7440-63-3
EC-No.	231-172-7
REACH-no	*1 100 Press. Gas (Liq.), H280
Full text of H- and EUH-statements	see section 16 Contains no other components or impurities which will influence the classification of the product.
*1	Listed in Annex IV / V REACH, exempted from registration.
*3	Registration not required: Substance manufactured or imported < 1t/y.

3.2. Mixtures

Not applicable

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SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Perform cardiopulmonary resuscitation if breathing stopped.
First-aid measures after skin contact	In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing. Obtain medical assistance.
First-aid measures after eye contact	Immediately flush eyes thoroughly with water for at least 15 minutes.
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

Most important symptoms and effects, both acute and delayed In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. See section 11.

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

None.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Water spray or fog. Product does not burn, use fire control measures appropriate for the surrounding fire.
Unsuitable extinguishing media	Do not use water jet to extinguish.

5.2. Special hazards arising from the substance or mixture

Reactivity in case of fire	No reactivity hazard other than the effects described in sub-sections below.
Specific hazards	Exposure to fire may cause containers to rupture/explode.
Hazardous combustion products	None.

5.3. Advice for firefighters

Specific methods

Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas receptacles to rupture. Cool endangered receptacles with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems. If possible, stop flow of product. Use water spray or fog to knock down fire fumes if possible. Move containers away from the fire area if this can be done without risk.

Special protective equipment for fire fighters

In confined space use self-contained breathing apparatus. Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters. Standard EN 469 - Protective clothing for firefighters. Standard - EN 659: Protective gloves for firefighters. EN 15090 Footwear for firefighters. EN 443 Helmets for fire fighting in buildings and other structures. Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures

Act in accordance with local emergency plan. Try to stop release. Evacuate area. Ensure adequate air ventilation. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Stay upwind. See section 8 of the SDS for more information on personal protective equipment.

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6.1.2. For emergency responders

Emergency procedures

Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Oxygen detectors should be used when asphyxiating gases may be released. See section 5.3 of the SDS for more information.

6.2. Environmental precautions

Try to stop release.

6.3. Methods and material for containment and cleaning up

Methods and material for containment and cleaning up

Ventilate area.

6.4. Reference to other sections

See also sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Safe use of the product

Do not breathe gas. Avoid release of product into work area. The product must be handled in accordance with good industrial hygiene and safety procedures. Only experienced and properly instructed persons should handle gases under pressure. Consider pressure relief device(s) in gas installations. Ensure the complete gas system was (or is regularly) checked for leaks before use. Do not smoke while handling product. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. Avoid suck back of water, acid and alkalis.

Safe handling of the gas receptacle

Do not allow backfeed into the container. Protect containers from physical damage; do not drag, roll, slide or drop. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Leave valve protection caps, when provided, in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use. If user experiences any difficulty operating valve discontinue use and contact supplier. Never attempt to repair or modify container valves or safety relief devices. Damaged valves should be reported immediately to the supplier. Keep container valve outlets clean and free from contaminants particularly oil and water. Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment. Close container valve after each use and when empty, even if still connected to equipment. Never attempt to transfer gases from one cylinder/container to another. Never use direct flame or electrical heating devices to raise the pressure of a container. Do not remove or deface labels provided by the supplier for the identification of the content of the container. Suck back of water into the container must be prevented. Open valve slowly to avoid pressure shock.

7.2. Conditions for safe storage, including any incompatibilities

Conditions for safe storage, including any incompatibilities

Observe all regulations and local requirements regarding storage of containers. Containers should not be stored in conditions likely to encourage corrosion. Container valve guards or caps, when provided, should be in place. Containers should be stored in the vertical position and properly secured to prevent them from falling over. Stored containers should be periodically checked for general condition and leakage. Keep container below 50°C in a well ventilated place. Store containers in location free from fire risk and away from sources of heat and ignition. Keep away from combustible materials.

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7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

Xenon (7440-63-3) DNEL/DMEL (additional information) Additional information None available. PNEC (additional information) Additional information None available.

Additional information

None available.

8.1.5. Control banding

No additional information available

8.2. Exposure controls

Appropriate engineering controls Appropriate engineering controls: Provide adequate general and local exhaust ventilation. Oxygen detectors should be used when asphyxiating gases may be released. Systems under pressure should be regularly checked for leakages. Consider the use of a work permit system e.g. for maintenance activities. Personal protection equipment Personal protective equipment: A risk assessment should be conducted and documented in each work area to assess the risks related to the use of the product and to select the PPE that matches the relevant risk. The following recommendations should be considered: PPE compliant to the recommended EN/ISO standards should be selected. Eye and face protection Eye protection: Wear goggles when transfilling or breaking transfer connections. Standard EN 166 - Personal eye-protection - specifications Skin protection Hand protection: Wear working gloves when handling gas containers. Standard EN 388 - Protective gloves against mechanical risks, performance level 1 or higher. Recommended types include wrist gloves from leather or synthetic material with equivalent performance, fabric gloves, fabric gloves with leather palms. Wear cold insulating gloves when transfilling or breaking transfer connections. Standard EN 511 - Cold insulating gloves, performance level 1 or higher. Recommended types include insulated gauntlets or gloves specifically selected to prevent liquid penetration and ingress of cryogenic liquids and to provide mechanical resistance. Respiratory protection Respiratory protection: Self contained breathing apparatus (SCBA) or positive pressure airline with mask are to be used in oxygen-deficient atmospheres. Self contained breathing apparatus is recommended, where unknown exposure may be expected, e.g. during maintenance activities on installation systems. Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.

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Thermal hazards Thermal hazard protection

None in addition to the above sections. Environmental exposure controls Environmental exposure controls: None necessary. Other information: Wear safety shoes while handling containers. Standard EN ISO 20345 - Personal protective equipment - Safety footwear.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state	Gas
Colour	Colourless.
Form	Liquefied gas
Odour	Odourless.
Odour threshold	Odour threshold is subjective and inadequate to warn of overexposure.
Melting point	-112 °C
Freezing point	Not applicable
Boiling point	-108 °C
Flammability	Non flammable.
Oxidising properties	No oxidising properties.
Explosive limits	Not available
Lower explosion limit	Not applicable.
Upper explosion limit	Not applicable.
Flash point	Not applicable for gases and gas mixtures.
Auto-ignition temperature	Non flammable.
Decomposition temperature	Not applicable.
pH	Not applicable for gases and gas mixtures.
Viscosity, kinematic	Not applicable for gases and gas mixtures.
Viscosity, dynamic	0.023 mPa·s literature; Not applicable for gases and gas mixtures.
Solubility in water	644 mg/l
Partition coefficient n-octanol/water (Log Kow)	Not applicable for inorganic products.
Partition coefficient n-octanol/water (Log Pow)	Not applicable for gas mixtures.
Vapour pressure	No reliable data available.
Vapour pressure at 50°C	Not applicable.
Critical pressure	5840 kPa
Density	1.11 g/cm³ 20.0 °C
Relative density	1.5
Relative vapour density at 20°C	Not applicable.
Relative gas density	4.5
Particle characteristics	Not applicable Not applicable for gases and gas mixtures. Nanoforms are not relevant for gases and gas mixtures.

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Critical temperature	16.6 °C
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9.2.2. Other safety characteristics

Molecular mass	131 g/mol
Gas group	Press. Gas (Liq.)

Additional information

Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

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SECTION 10: Stability and reactivity

10.1. Reactivity

No reactivity hazard other than the effects described in sub-sections below.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None.

10.4. Conditions to avoid

Avoid moisture in installation systems.

10.5. Incompatible materials

For additional information on compatibility refer to ISO 11114.

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 hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity	No known toxicological effects by inhalation from this product.
Acute toxicity (oral)	Not classified
Acute toxicity (dermal)	Not classified
Acute toxicity (inhalation)	Not classified
Skin corrosion/irritation	No known effects from this product.
pH	Not applicable for gases and gas mixtures.
Serious eye damage/irritation	No known effects from this product.
pH	Not applicable for gases and gas mixtures.
Respiratory or skin sensitisation	No known effects from this product.
Germ cell mutagenicity	No known effects from this product.
Carcinogenicity	No known effects from this product.
Reproductive toxicity	Not classified
Toxic for reproduction	Fertility : No known effects from this product.
Toxic for reproduction	unborn child : No known effects from this product.
STOT-single exposure	No known effects from this product.
STOT-repeated exposure	No known effects from this product.
Aspiration hazard	Not applicable for gases and gas mixtures.

Xenon (7440-63-3) Viscosity, kinematic Not applicable for gases and gas mixtures.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

No additional information available

11.2.2. Other information

Other information The substance/mixture has no endocrine disrupting properties.

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SECTION 12: Ecological information

12.1. Toxicity

Assessment No ecological damage caused by this product. Hazardous to the aquatic environment, short-term (acute) : Not classified Hazardous to the aquatic environment, long-term (chronic) : Not classified Not rapidly degradable

Xenon (7440-63-3) LC50 96 h - Fish [mg/l] No data available. EC50 48h - Daphnia magna [mg/l] No data available. EC50 72h - Algae [mg/l] No data available.

12.2. Persistence and degradability

Xenon (7440-63-3) Assessment No ecological damage caused by this product.

12.3. Bioaccumulative potential

Xenon (7440-63-3) Partition coefficient n-octanol/water (Log Pow) Not applicable for gas mixtures. Partition coefficient n-octanol/water (Log Kow) Not applicable for inorganic products. Assessment No ecological damage caused by this product.

12.4. Mobility in soil

Xenon (7440-63-3) Assessment No ecological damage caused by this product.

12.5. Results of PBT and vPvB assessment

Assessment Not classified as PBT or vPvB.

12.6. Endocrine disrupting properties

Other adverse effects Not classified as PMT or vPvM.

Assessment The substance/mixture has no endocrine disrupting properties.

12.7. Other adverse effects

Other adverse effects Not classified as PMT or vPvM.

Effect on the ozone layer No effect on the ozone layer.

Effect on global warming None.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods May be vented to atmosphere in a well ventilated place. Do not discharge into any place where its accumulation could be dangerous. Return unused product in original container to supplier. List of hazardous waste codes (from Commission Decision 2000/532/EC as amended)

: 16 05 05 Gases in pressure containers other than those mentioned in 16 05 04.

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13.2. Additional information

External treatment and disposal of waste should comply with applicable local and/or national regulations.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID ADR IMDG IATA ADN RID

14.1. UN number or ID number

UN 2036 UN 2036 UN 2036 UN 2036 UN 2036

14.2. UN proper shipping name

XENON XENON Xenon XENON XENON Transport document description UN 2036 XENON, 2.2, (C/E) UN 2036 XENON, 2.2 UN 2036 Xenon, 2.2 UN 2036 XENON, 2.2 UN 2036 XENON, 2.2

14.3. Transport hazard class(es)

2.2 2.2 2.2 2.2 2.2 2.2

14.4. Packing group

Not applicable Not applicable Not applicable Not applicable Not applicable

14.5. Environmental hazards

Dangerous for the

environment	No Dangerous for the
environment	No
Marine pollutant	No Dangerous for the
environment	No Dangerous for the
environment	No Dangerous for the
environment	No No supplementary information available

14.6. Special precautions for user

Special transport precautions	Avoid transport on vehicles where the load space is not separated from the driver's compartment, Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency, Before transporting product
containers	- Ensure there is adequate ventilation, - Ensure that containers are firmly secured, - Ensure valve is closed and not leaking, - Ensure valve outlet cap nut or plug (where provided) is correctly fitted, - Ensure valve protection device (where provided) is correctly fitted.

Overland transport

Classification code (ADR)	2A
Special provisions (ADR)	378, 392, 662
Limited quantities (ADR)	120ml
Excepted quantities (ADR)	E1
Packing instructions (ADR)	P200
Mixed packing provisions (ADR)	MP9
Portable tank and bulk container instructions (ADR)	(M)
Tank code (ADR)	PxBN(M)
Tank special provisions (ADR)	TA4, TT9
Vehicle for tank carriage	AT
Transport category (ADR)	3

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Special provisions for carriage - Loading, unloading and handling (ADR) : CV9, CV10, CV36

Hazard identification number (Kemler No.)	20 Orange plates :
Tunnel restriction code (ADR)	C/E

Transport by sea

Special provisions (IMDG)	378
Limited quantities (IMDG)	120 ml
Excepted quantities (IMDG)	E1
Packing instructions (IMDG)	P200
EmS-No. (Fire)	F-C
EmS-No. (Spillage)	S-V

Stowage category (IMDG)	A
Properties and observations (IMDG)	Liquefied, inert gas. Much heavier than air (4.5).

Air transport

PCA Excepted quantities (IATA)	E1
PCA Limited quantities (IATA)	FORBIDDEN
PCA limited quantity max net quantity (IATA)	FORBIDDEN
PCA packing instructions (IATA)	200
PCA max net quantity (IATA)	75kg
CAO packing instructions (IATA)	200
CAO max net quantity (IATA)	150kg
Special provisions (IATA)	A69, A202
ERG code (IATA)	2L

Inland waterway transport

Classification code (ADN)	2A
Special provisions (ADN)	378, 392, 662
Limited quantities (ADN)	120 ml
Excepted quantities (ADN)	E1
Equipment required (ADN)	PP
Number of blue cones/lights (ADN)	0

Rail transport

Classification code (RID)	2A
Special provisions (RID)	378, 392, 662
Limited quantities (RID)	120ml
Excepted quantities (RID)	E1
Packing instructions (RID)	P200
Mixed packing provisions (RID)	MP9
Portable tank and bulk container instructions (RID)	(M)
Tank codes for RID tanks (RID)	PxBN(M)
Special provisions for RID tanks (RID)	TA4, TT9, TM6
Transport category (RID)	3 Special provisions for carriage - Loading, unloading and handling (RID) : CW9, CW10, CW36
Colis express (express parcels) (RID)	CE3
Hazard identification number (RID)	20

14.7. Maritime transport in bulk according to IMO instruments

IBC code	Not applicable.
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SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List) Not listed on REACH Annex XVII REACH Annex XIV (Authorisation List) Not listed on REACH Annex XIV (Authorisation List) REACH Candidate List (SVHC) Contains no substance(s) listed on the REACH Candidate List PIC Regulation (Prior Informed Consent) Not listed on the PIC list (Regulation EU 649/2012) POP Regulation (Persistent Organic Pollutants) Not listed on the POP list (Regulation EU 2019/1021) Ozone Regulation (1005/2009) Not listed on the Ozone Depletion list (Regulation EU 2024/590) VOC Directive (2004/42)

Restrictions on use	None. Seveso Directive (Disaster Risk Reduction)
Seveso Directive	2012/18/EU (Seveso III) : Not covered. Explosives Precursors Regulation (EU 2019/1148) Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors) Drug Precursors Regulation (EC 273/2004) Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

Ensure all national/local regulations are observed.

Council Directive 89/391/EEC on the introduction of measures to encourage improvements in the safety and health of workers at work Directive 2016/425/EEC on personal protective equipment Directive 2014/34/EU on equipment and protective systems intended for use in potentially explosive atmospheres (ATEX) Only products that comply with the food regulations (EC) No. 1333/2008 and (EU) No. 231/2012 and are labelled as such may be used as food additives.

15.2. Chemical safety assessment

A CSA does not need to be carried out for this product.

SECTION 16: Other information

Indication of changes:

Abbreviations and acronyms	ADN European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways ADR ADR - Agreement concerning the International Carriage of Dangerous Goods by Road ATE ATE - Acute Toxicity Estimate BLV Biological limit value
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Abbreviations and acronyms	BOD Biochemical oxygen demand (BOD) CAO Cargo Aircraft only / Cargo Aircraft only CAS-No. Chemical Abstract Service number CLP CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008 COD Chemical oxygen demand (COD) CSA CSA - Chemical Safety Assessment DMEL Derived Minimal Effect level DNEL Derived-No Effect Level EC50 Median effective concentration EC European Inventory of Existing Commercial Chemical Substances ED Endocrine disruptor EINECS EINECS - European Inventory of Existing Commercial Chemical Substances EN European Standard IARC International Agency for Research on Cancer IATA International Air Transport Association IMDG International Maritime Dangerous Goods IOELV Indicative Occupational Exposure Limit Value LC50 Median lethal concentration LD50 Median lethal dose LOAEL Lowest Observed Adverse Effect Level NOAEC No-Observed Adverse Effect Concentration NOAEL No-Observed Adverse Effect Level NOEC No-Observed Effect Concentration N.O.S. Not Otherwise Specified OECD Organisation for Economic Co-operation and Development OEL Occupational Exposure Limit PBT Persistent Bioaccumulative Toxic PCA Passenger and Cargo Aircraft / Passenger and Cargo Aircraft PNEC Predicted No-Effect Concentration PPE PPE - Personal Protection Equipment REACH Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006 RID Regulations concerning the International Carriage of Dangerous Goods by Rail RMM RMM - Risk Management Measures STP Sewage treatment plant ThOD Theoretical oxygen demand (ThOD) TLM Median Tolerance Limit TRGS Technical Rules for Hazardous Substances STOT-RE Specific Target Organ Toxicity-Repeated Exposure STOT-SE Specific Target Organ Toxicity-Single Exposure
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Abbreviations and acronyms	UFI Unique Formula Identifier UN UN - United Nations VOC Volatile Organic Compounds vPvB Very Persistent and Very Bioaccumulative WGK Water Hazard Class
Training advice	The hazard of asphyxiation is often overlooked and must be stressed during operator training. For more guidance, refer to EIGA SL 01 "Dangers of Asphyxiation", downloadable
at http	//www.eiga.eu..
Other information	Classification in accordance with the procedures and calculation methods of Regulation (EC) 1272/2008 (CLP). Key literature references and sources of data are maintained in

EIGA doc 169

'Classification and Labelling Guide', downloadable at <http://www.Eiga.eu> .

Full text of H- and EUH-statements:

Press. Gas (Liq.) Gases under pressure

Liquefied gas H280 Contains gas under pressure; may explode if heated.

The classification complies with

ATP 12

DISCLAIMER OF LIABILITY

Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out. Details given in this document are believed to be correct at the time of going to press. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.

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