NO 100,8417 ppm;N2 99,9899 %

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 20/12/2012 Revision date: 18/03/2025 Supersedes version of: 30/11/2015 Version: 1.1

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

1.1. Product identifier

Product form : Mixture
Name : NO 100,8417 ppm;N2 99,9899 %
Trade name : 135 mg/m3 Stickstoffmonoxid, Rest Stickstoff

Product code : 000010011949

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

1.2.1. Relevant identified uses

Relevant identified uses : Industrial and professional use for chemical analysis, calibration, (routine) quality control, laboratory use, under controlled conditions.
Perform risk assessment prior to use.

1.2.2. Uses advised against

Uses advised against : Consumer use.
Uses other than those listed above are not supported, contact your supplier for more information on other uses.

1.3. Details of the supplier of the safety data sheet

Linde Gas GmbH
Carl-von-Linde-Platz 1
A-4651 Stadl-Paura
Austria
T +43 50 4273
office@at.linde-gas.com

1.4. Emergency telephone number

Emergency number : UMCO/NCEC: +44 1865 407333 (English); +49 89 220 61012 (German)

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 : Compressed 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.

2.3. Other hazards

Other hazards : Not classified as PBT or vPvB. The substance/mixture has no endocrine disrupting properties.

Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP] ATE, EUH-statements, M-Factors
Nitrogen (Main constituent)	CAS-No.: 7727-37-9 EC-No.: 231-783-9 REACH-no: *1	99.9899	Press. Gas (Comp.), H280
Nitric oxide (Component)	CAS-No.: 10102-43-9 EC-No.: 233-271-0 REACH-no: 01-2120766630-54	0.01008417	Ox. Gas 1, H270 Press. Gas (Comp.), H280 Skin Corr. 1B, H314 Eye Dam. 1, H318 Acute Tox. 1 (Inhalation:gas), H330 (ATE=57.5 ppmv/4h) EUH071

Specific concentration limits:

Name	Product identifier	Specific concentration limits
Nitric oxide (Component)	CAS-No.: 10102-43-9 EC-No.: 233-271-0 REACH-no: 01-2120766630-54	(0.5 ≤ C ≤ 100) STOT SE 3; H335

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.*

Full text of H- and EUH-statements: see section 16

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 : Adverse effects not expected from this product.

First-aid measures after eye contact : Adverse effects not expected from this product.

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 : Nitric oxide/nitrogen dioxide.

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. Stay upwind. See section 8 of the SDS for more information on personal protective equipment.

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	:	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 regularily) 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. Do not breathe gas. Avoid release of product into work area.
Safe handling of the gas receptacle	:	Refer to supplier's container handling instructions. 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 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 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.

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

Nitric oxide (10102-43-9)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Nitrogen monoxide
IOEL TWA	2.5 mg/m³
	2 ppm
Regulatory reference	COMMISSION DIRECTIVE (EU) 2017/164
Austria - Occupational Exposure Limits	
Local name	Stickstoffmonoxid
MAK (OEL TWA)	2.5 mg/m³
	2 ppm
Regulatory reference	BGBl. II Nr. 156/2021

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

NO 100,8417 ppm;N2 99,9899 %	
DNEL/DMEL (additional information)	
Additional information	None established.
PNEC (additional information)	
Additional information	None established.

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 regularily checked for leakages. Ensure exposure is below occupational exposure limits (where available). 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.
Personal protective equipment symbol(s):

Eye and face protection

Eye protection:
Wear safety glasses with side shields. 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.

Respiratory protection

Respiratory protection:
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. When indicated by a risk assessment, Respiratory Protective Equipment must be used. The selection of the Respiratory Protective Device (RPD) must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected RPD.

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	:	Mixture contains one or more component(s) which have the following colour(s): Brownish gas Colourless.
Form	:	Compressed gas
Odour	:	Odour threshold is subjective and inadequate to warn of overexposure. Mixture contains one or more component(s) which have the following odour: Pungent.
Odour threshold	:	Odour threshold is subjective and inadequate to warn of overexposure.
Melting point	:	Not applicable for gases and gas mixtures.
Freezing point	:	Not applicable
Boiling point	:	Not applicable for gas mixtures. It is technically not possible to determine the boiling point or range of this mixture. Component with lowest boiling point: Nitrogen -196 °C
Flammability	:	Non flammable.
Oxidising properties	:	No oxidising properties.

Explosive limits	:	Non flammable.
Lower explosion limit	:	Not available
Upper explosion limit	:	Not available
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	:	Not applicable for gases and gas mixtures.
Solubility in water	:	Mixture is partially soluble in water
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Partition coefficient n-octanol/water (Log Pow)	:	Not applicable for gas mixtures.
Vapour pressure	:	Not applicable.
Vapour pressure at 50°C	:	Not applicable.
Density	:	Not applicable
Relative density	:	Not applicable
Relative vapour density at 20°C	:	Not applicable for gases and gas mixtures.
Relative gas density	:	Lighter or similar to air.
Particle characteristics	:	Not applicable Not applicable for gases and gas mixtures.

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

Gas group	:	Compressed gas
Additional information	:	None.

SECTION 10: Stability and reactivity

10.1. Reactivity

Data for mixtures are not available.
This mixture contains components with the following reactivity : Violently oxidises organic material.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available

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	:	Classification criteria are not met.
Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified

Nitric oxide (10102-43-9)	
LC50 Inhalation - Rat [ppm]	115 ppm/1h (ADR) 57.5 ppm/4h (CLP)

Skin corrosion/irritation : Classification criteria are not met.
pH: Not applicable for gases and gas mixtures.

Nitric oxide (10102-43-9)	
pH	Not applicable for gases and gas mixtures.

Nitrogen (7727-37-9)	
pH	Not applicable for gases and gas mixtures.

Serious eye damage/irritation : Classification criteria are not met.
pH: Not applicable for gases and gas mixtures.

Nitric oxide (10102-43-9)	
pH	Not applicable for gases and gas mixtures.

Nitrogen (7727-37-9)	
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.

NO 100,8417 ppm;N2 99,9899 %	
Viscosity, kinematic	Not applicable for gases and gas mixtures.

Nitric oxide (10102-43-9)	
Viscosity, kinematic	Not applicable for gases and gas mixtures.

Nitrogen (7727-37-9)	
Viscosity, kinematic	Not applicable for gases and gas mixtures.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : The substance/mixture has no endocrine disrupting properties.

11.2.2. Other information

No additional information available

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

NO 100,8417 ppm;N2 99,9899 %	
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.

Nitric oxide (10102-43-9)	
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.

Nitrogen (7727-37-9)	
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

NO 100,8417 ppm;N2 99,9899 %	
Assessment	No data available.

Nitric oxide (10102-43-9)	
Assessment	Not applicable for inorganic products.

Nitrogen (7727-37-9)	
Assessment	No ecological damage caused by this product.

12.3. Bioaccumulative potential

NO 100,8417 ppm;N2 99,9899 %	
Partition coefficient n-octanol/water (Log Pow)	Not applicable for gas mixtures.
Assessment	No data available.

Nitric oxide (10102-43-9)	
Partition coefficient n-octanol/water (Log Pow)	Not applicable for inorganic products.
Partition coefficient n-octanol/water (Log Kow)	Not known.

Nitrogen (7727-37-9)	
Partition coefficient n-octanol/water (Log Pow)	Not applicable for gas mixtures.
Partition coefficient n-octanol/water (Log Kow)	Not applicable for inorganic products.
	No ecological damage caused by this product.

12.4. Mobility in soil

NO 100,8417 ppm;N2 99,9899 %	
Assessment	Because of its high volatility, the product is unlikely to cause ground or water pollution. Partition into soil is unlikely.

Nitric oxide (10102-43-9)	
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution. Partition into soil is unlikely.

Nitrogen (7727-37-9)	
Ecology - soil	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 : No known effects from this product.
Assessment : The substance/mixture has no endocrine disrupting properties.
Adverse effects on the environment caused by endocrine disrupting properties : The substance/mixture has no endocrine disrupting properties.

12.7. Other adverse effects

Other adverse effects : No known effects from this product.

Effect on the ozone layer : No effect on the ozone layer.
Effect on global warming : No known effects from this product.

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.

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 1956	UN 1956	UN 1956	UN 1956	UN 1956
14.2. UN proper shipping name				
COMPRESSED GAS, N.O.S. (Nitrogen)	COMPRESSED GAS, N.O.S. (Nitrogen)	Compressed gas, n.o.s. (Nitrogen)	COMPRESSED GAS, N.O.S. (Nitrogen)	COMPRESSED GAS, N.O.S. (Nitrogen)
Transport document description				
UN 1956 COMPRESSED GAS, N.O.S. (Nitrogen), 2.2, (E)	UN 1956 COMPRESSED GAS, N.O.S. (Nitrogen), 2.2	UN 1956 Compressed gas, n.o.s. (Nitrogen), 2.2	UN 1956 COMPRESSED GAS, N.O.S. (Nitrogen), 2.2	UN 1956 COMPRESSED GAS, N.O.S. (Nitrogen), 2.2
14.3. Transport hazard class(es)				
2.2	2.2	2.2	2.2	2.2

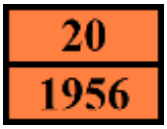
ADR	IMDG	IATA	ADN	RID
				
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: 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) : 1A
Special provisions (ADR) : 274, 378, 392, 655, 662
Limited quantities (ADR) : 120ml
Excepted quantities (ADR) : E1
Packing instructions (ADR) : P200
Vehicle for tank carriage : AT
Transport category (ADR) : 3
Hazard identification number (Kemler No.) : 20
Orange plates :



Tunnel restriction code (ADR) : E

Transport by sea

Special provisions (IMDG) : 274, 378, 392
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

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
ERG code (IATA) : 2L

Inland waterway transport

Classification code (ADN)	:	1A
Special provisions (ADN)	:	274, 378, 392, 655, 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)	:	1A
Special provisions (RID)	:	274, 378, 392, 655, 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)	:	CxBN(M)
Special provisions for RID tanks (RID)	:	TA4, TT9
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.

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)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

REACH Annex XIV (Authorisation List)

Contains no substance(s) 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)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 2024/590 on substances that deplete the ozone layer)

VOC Directive (2004/42)

Restrictions on use :

Seveso Directive (Disaster Risk Reduction)

Seveso Directive : 2012/18/EU (Seveso III) : Not covered.

Explosives Precursors Regulation (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 (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.
Safety data sheet in accordance with commission regulation (EU) No 2020/878.
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.
This Safety Data Sheet has been produced to comply with Regulation (EU) 2015/830.

15.2. Chemical safety assessment

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

SECTION 16: Other information

Indication of changes:
Safety data sheet in accordance with commission regulation (EU) No 2020/878.

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
CAO	Cargo Aircraft only / Cargo Aircraft only
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
CAS-No.	Chemical Abstract Service number
COD	Chemical oxygen demand (COD)
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
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

Abbreviations and acronyms:	
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
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
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
UFI	Unique Formula Identifier
VOC	Volatile Organic Compounds
vPvB	Very Persistent and Very Bioaccumulative
WGK	Water Hazard Class
MiM	Mixture in Mixture [MiM]
MAK	maximum workplace concentration
vPvM	Very persistent and very mobile
PMT	Persistent, mobile and toxic
IARC	International Agency for Research on Cancer
JArbSchG	Act on the Protection of Young People in Employment (JArbSchG)
MuSchG	Act on the Protection of Working Mothers (MuSchG)
TALuft	Technical Instructions on Air Quality Control (TA Luft)
VbF	Ordinance on Flammable Liquids (VbF)
TWA	Time Weighted Average
TLV	Threshold Limit Value
RMM	Risk Management Measures
ThOD	Theoretical oxygen demand (ThOD)
PPE	Personal protective equipment
EWC	European waste catalogue

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 using data from databases maintained by the European Industrial Gases Association (EIGA). Data is maintained in EIGA doc 169 : 'Classification and Labelling Guide', downloadable at : http://www.eiga.eu. Classification in accordance with the procedures and calculation methods of Regulation (EC) 1272/2008 (CLP).

Full text of H- and EUH-statements:	
Acute Tox. 1 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 1
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Ox. Gas 1	Oxidising Gases, Category 1
Press. Gas (Comp.)	Gases under pressure : Compressed gas
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation
H270	May cause or intensify fire; oxidiser.
H280	Contains gas under pressure; may explode if heated.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H335	May cause respiratory irritation.
EUH071	Corrosive to the respiratory tract.

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.

Safety Data Sheet (SDS), EU AT

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

End of document