SAFETY DATA SHEET

Sulphuric Acid(VI) 95%

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2015/830

Date of issue	:	2010-11-02
Date of revision	:	2021-02-01
Version	:	1

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

1.1. Product identifier

Product name	:	Sulfuric acid technical
Chemical name	:	Sulphuric acid
EC number	:	231-639-5
CAS number	:	7664-93-9
INCI Name	:	Not available/not applicable
REACH Registration number	:	01-2119458838-20
Other means of identification	:	sulfuric acid (VI), concentrated sulfuric acid, 95% sulfuric acid
Chemical formula	:	H_2SO_4

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

Identified uses	:	as an intermediate in manufacture of inorganic and organic chemicals incl. fertilizers; as a processing aid, catalyst, dehydrating agent, pH regulator; for extractions and processing of minerals; in the process of surface treatments, purification and etching; in gas purification, scrubbing, flue gas scrubbing; in electrolytic processes; in production and recycling of sulphuric acid contained batteries; in industrial cleaning; mixing, preparation and repackaging of sulphuric acid; as laboratory chemicals.
Uses advised against	:	have not been identified.

1.3. Details of the supplier of the safety data sheet

Name	:	GLI-THERM Sp. z o.o.
Address	:	st. Rozwojowa 11, 44-338 Jastrzębie-Zdrój Poland
Regon	:	242850136
NIP/Tax No	:	6423178990
Telephone	:	+48 733 525 533
E-mail	:	sandra.stachowicz@gli therm.eu
Website address	:	www.glitherm.eu

1.4. Emergency telephone number

National advisory body/Poison Center:

Ireland	:	National Poisons Information Centre Emergency number: +353 1 809 2566 (Healthcare professionals-24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)
United Kingdom	:	National Poisons Information Service (Newcastle Centre) Emergency number: 0844 892 0111 (UK only, 24/7, healthcare professionals only)
Poland	:	Szpital Praski p.w. Przemienienia Pańskiego Sp. z o.o. Emergency number: +48 22 619 66 54 +48 22 619 08 97
Germany	:	Vergiftungs-Informations-Zentrale Freiburg Emergency number: +49 (0) 761 19240
24 Hour Emergency Telephone	:	+(44)-8708200418 CHEMTREC

Supplier

Telephone number	:	+48 733 525 533

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Product definition : Mono-constituent substance

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

Hazard Class and Category Code	:	Skin Corr. 1A - Skin corrosion category 1A
Hazard Statement	:	H314 Note B

Human Heath effects

Skin effect	:	Causes severe skin burns.
Eyes effect	:	Causes severe eye damage.
Swallowing	:	It can cause damage the gastrointestinal tract.
Inhalation	:	Vapours irritate the respiratory system, slowed pulmonary edema.

2.2. Label elements

Hazard pictograms : 

GHS05

Signal word : Danger

Hazard statements : **H314** - Causes severe skin burns and eye damage

Precautionary statements

Prevention : **P260** - Do not breathe dust/fume/gas/mist/vapours/spray.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

Response : **P301+P330+P331** - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all
contaminated clothing. Rinse skin with water/shower
P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position
comfortable for breathing
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician

Storage : **P405** - Store locked up.

2.3. Other hazards

Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII : Sulphuric acid is neither a PBT nor a vPvB substance.

Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : Sulphuric acid is neither a PBT nor a vPvB substance.

Other hazards which do not result in classification : The substance has not been included in the list established in accordance with Art. 59(1) of Regulation (EC) 1907/2006 as having endocrine disrupting properties, no information on its endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 3: Composition/information on ingredients

3.1. Substance

Mono-constituent substance

Dangerous ingredient	Identifiers	%	Classification Regulation (EC) No. 1272/2008 [CLP/GHS]
Sulphuric acid	EC: 231-639-5 CAS: 7664-93-9 REACH: 01-2119458838-20	93 - 98	Skin Corr. 1A, H314 Eye Dam. 1, H318 See Section 16 for the full text of the H statements declared above.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing. Seek immediate medical attention.

Inhalation : Get medical attention immediately. Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Get medical attention immediately. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes.Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. In the event of swallowing, induce patient to drink plenty of water. In addition, do not give anything by mouth. Get medical attention immediately.

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

Sulfuric acid is causes severe skin burns and eye damage is highly corrosive. Sulfuric acid is a strong oxidant of organic substance. It collects water from organic substances, which leads to its total carbonization. May assist combustion. Reacts violently upon contact with water. Highly reactive with metals and organic materials.

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

Notes to physician : Because the possibility of occurrence of delayed pulmonary edema, patient undergoes medical observation for at least 48 hours.

Specific treatments : No data

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	:	In case of fire, use a stream of water (fog), extinguishing foam, dry chemical or CO2 to cool the tanks. Extinguishing agents appropriate for the burning materials.
Unsuitable extinguishing media	:	Direct stream.
NOTE	:	Do not get water inside the tank. Reacts violently upon contact with water.

5.2. Special hazards arising from the substance or mixture

Hazards from the substance or mixture	:	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous combustion products	:	Decomposition products may include the following materials: sulfur oxides. Hydrogen releases when react with metals.

5.3 Advice for firefighters

Special precautions for fire-fighters	:	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Put on appropriate personal protective equipment (see section 8).

In an emergency situation dress:

- gas mask with canister,
- use personal protective equipment isolating body (gastight suit with the isolating equipment of respiratory protection),
- clothing steel.

6.2. Environmental precautions

Avoid release of the product to the environment, limit the spreading of the spill. Inform the relevant authorities in the event of a release of large amounts of the substance and if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3. Methods and materials for containment and cleaning up

Large spill	:	If there is no risk, stop or reduce the leak. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth. Place in an appropriate waste disposal container. The spilled material may be neutralized with sodium carbonate, sodium bicarbonate, calcium carbonate, magnesium carbonate, calcium oxide or hydroxide. Contaminated absorbent material may pose the same hazard as the spilt product. In case of a large spill embank the place where liquid gathers and pump it out.
Small spill	:	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up or absorb with an inert dry material and place in an appropriate waste disposal container. This method is sufficient if the acid has leaked onto the hardened surface. In the event of acid leaking onto the ground, the soil should be acidified. Sulfuric acid should be neutralized with 10-percent lime milk used in excess. Strongly diluted acid can be neutralized with sodium carbonate, sodium bicarbonate, small amounts of spilled liquid can be covered with absorbent material and materials neutralizing acids, e.g. dolomite, calcium carbonate. Neutralize sulfuric acid in higher concentrations with e.g. calcium hydroxide.

6.4. Reference to other sections

See Section 1 for emergency contact information.
See Section 7 for information on safe handling.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance.

7.1. Precautions for safe handling

Put on appropriate personal protective equipment. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from alkalis. Empty containers retain product residue and can be hazardous.
When diluting, always add acid to water, not water to acid.

7.2. Conditions for safe storage, including any incompatibilities.

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well ventilated area, away from incompatible materials (see section 10) and food and drink. Separate from alkalis.

Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Store in a cool, well ventilated area with local exhaust and general ventilation. Store in an area with easily washable, and acid resistant floor sloped toward the drains, walls painted with acid resistant enamel, with an internal installation of water supply and separate sewerage.

7.3. Specific end use(s)

Recommendations : Is recommended to use original container.

Industrial sector specific solutions : Vent waste air only via suitable separators or scrubbers.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance.

8.1. Control parameters

	Limit value – Eight hours	Limit value – Short term
	mg/m3	mg/m3
European Union	0.05 thoracic fraction	-
Germany (AGS)	0.1 inhalable aerosol	0.1 inhalable aerosol (15 minutes average value)

Source of information: http://limitvalue.ifa.dguv.de/

DNELs - Derived No-Effect Level - for workers

Acute - local effects	Inhalation	0.1 mg/m3
Long-term - local effects	Inhalation	0.05 mg/m3

PNEC - Predicted No-Effect Concentration

PNEC aqua (freshwater)	**0.0025 mg/l**
PNEC aqua (marine water)	**0.00025 mg/l**
PNEC STP	**8,8 mg/l**
PNEC sediment (freshwater)	**0.002 mg/kg sediment dw**
PNEC sediment (marine water)	**0.002 mg/kg sediment dw**

8.2. Exposure controls

Technical measures	:	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. Install exhaust ventilation. Install safety showers and eyewash fountain wherever acid may come into contact with skin or eyes.
Individual protection measures		
Hygiene measures	:	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	:	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. **Recommended:** Tightly-fitting goggles and face shield.
Hand protection	:	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. After contamination with product change the gloves immediately and dispose of them according to relevant national and local regulations <1 hours (breakthrough time): Fluorinated rubber – FKM. **Recommended:** protective gloves and shoes (for example: natural rubber - acid concentration below 20%, polyvinyl chloride - acid concentration above 20%).
Body protection	:	
Skin protection	:	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. **Recommended:** protective clothing resistant to chemical agents. Protective clothing made of coated materials (such as viton, butyl rubber or Hypalon).
Respiratory protection	:	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. **Recommended:** Combination filter, e.g. DIN 3181 ABEK or selfcontained breathing apparatus (SCBA). Mask with the combined filter finalized a Class B-P2. In case of oxygen deficiency (concentration below 17% vol.) or the compound concentration excess 1% volume, use autonomous or stationary isolating equipment.
Recommended monitoring procedures	:	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

		Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances. Risk management measures occupational exposure controls.
Environmental exposure controls	:	Technical measures: If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Substance type	:	Inorganic compound
Appearance/physical state/colour	:	Colorless to brown, viscous liquid
pH	:	Strong acid
Initial boiling point and boiling range (at 1013 hPa)	:	290°C (100% sulphuric acid) 310-335°C (98% sulphuric acid) 330°C (96% sulphuric acid) 360°C (77% sulphuric acid)
Melting point/freezing point	:	10.4 to 10.9°C (100% sulphuric acid) -1.11 to 3.0°C (98% sulphuric acid) -13.89 to -10°C (96% sulphuric acid) 7.56°C (83% sulphuric acid)
Particle size distribution	:	Not required for a liquid
Flash point	:	Not applicable – inorganic substance
Flammability (solid, gas)	:	Non-flammable
Vapor pressure at 148.5°C	:	130 Pa (97% sulphuric acid)
Vapour pressure at 20°C	:	214 Pa (65% sulphuric acid) 6 Pa (90% sulphuric acid)
Partition Coefficient	:	Not relevant for ionisable substances
Density at 20°C	:	1.8144-1.8305 kg/L (90-100% sulphuric acid)
Water solubility at 20 0C	:	Miscible
Self-ignition temperature	:	Not applicable – inorganic substance
Surface Tension at 25°C	:	Not expected to be surface active
Stability in organic solvents and identity of relevant degradation products	:	Not considered critical for an inorganic acid

Dissociation constant	:	pKa= 1.92
Viscosity	:	A viscosity of 22.5 cP (0.0025 PaS; 22.5 mPaS) is reported for 95% sulphuric acid at 20°C.

9.2. Other information

Explosive properties	:	Not expected to possess explosive properties.
Oxidizing properties	:	Does not meet the criteria as an oxidizer
Additional information	:	No data.

SECTION 10: Stability and reactivity

10.1. Reactivity

Highly reactive with water and alkalis.
Corrosive to metals, causing the emission of hydrogen, which can cause a fire hazard.

10.2 Chemical stability

The substance is stable under normal conditions of storage, use and handling.

10.3. Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4. Conditions to avoid

Highly reactive with water and alkalis. Avoid combustible materials, reducing agents, strong bases.
Solution with a concentration above 60% is a strong oxidant, reacts with many organic compounds and destroys clothing.
The substance is a strong acid, reacts violently with the basis and is corrosive. It is hygroscopic and that causes corrosion.
Reacts strongly with base metals (except lead), releasing hydrogen.

10.5. Incompatible materials

Attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air.
Reactive or incompatible with the following materials: alkalis.

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

Eye contact	:	Immediate pain, severe burns, permanent damage of the cornea that can lead to blindness.
Inhalation	:	Mists and vapors may cause sore throat, cough, shortness of breath, difficulty breathing. Longer stay in the atmosphere can cause risk of lung edema. Constant or repeated exposure to mists and vapors of sulfuric acid can cause teeth decay and theirs decolourization, chronic irritation of the nose, throat and bronchial tubules and the possibility of.
Skin contact	:	Pain, serious burns. Constant or repeated exposure to diluted solutions may cause dermatitis.
Ingestion	:	It can cause severe burns to the mouth and throat and damage to the gastrointestinal tract.

Acute toxicity

Oral	:	LD50	2140 mg/kg bw – rat(Wistar) male/female
Inhalation	:	LC50	375 mg/m3 air – rat(Fischer 344) male/female

Skin corrosion/irritation	:	Corrosive
Serious eye damage/eye irritation	:	Corrosive
Irritation/Corrosivity Respiratory tract	:	Irritating
Respiratory or skin sensitisation	:	Not sensitizing
Germ cell mutagenicity	:	Genetic toxicity: negative
Carcinogenic	:	A number of studies of the carcinogenicity of sulphuric acid have been performed using oral gavage, intratracheal instillation and inhalation exposure.
Reproductive toxicity	:	No studies of the effects of sulphuric acid exposure on fertility have been identified.
Specific target organ toxicity - single exposure	:	-
Specific target organ toxicity - repeated exposure	:	-
Aspiration hazard	:	-

Repeated dose toxicity	:	NOAEC5 (inhalation: larynx)	0.3 mg/m3 – rat (ALPK:APfSD (Wistar)) female
Toxicity for reproduction	:	Developmental toxicity NOAEC (inhalation)	19.3 mg/m3 – rabbit, mouse (New Zealand White, CF-1)

11.2 Information on other hazards

No information on its endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 12: Ecological information

12.1. Toxicity

Sulphuric acid does not fulfill the T criteria.

Aquatic compartment (including sediment)

Short-term toxicity to fish	**LC506 for freshwater fish: 16 mg/L (bluegill sunfish (Lepomis macrochirus))**
Long-term toxicity to fish	**EC507/LC10 or NOEC for freshwater fish: 0.025 mg/L (Jordanella floridae)**
Short-term toxicity to aquatic invertebrates	**EC50/LC50 for freshwater invertebrates: 100 mg/L (Daphnia magna)**
Long-term toxicity to aquatic invertebrates	**EC10/LC10 or NOEC for freshwater invertebrates: 0.15 mg/L (midge Tanytarsus dissimilis)**
Algae and aquatic plants	**EC10/LC10 or NOEC for freshwater algae: 100 mg/L (Desmodesmus subspicatus)**
Sediment organisms	**No data are available. No testing is proposed as significant terrestrial exposure is not predicted. Sulphuric acid will rapidly dissociate in the environment to form the ubiquitous hydrogen (hydronium) and sulphate ions.**
Toxicity to aquatic micro- organisms	**EC10/LC10 or NOEC for aquatic icro-organisms: 26000 mg/L**

Atmospheric compartment

No data are available. No testing is proposed as significant atmospheric exposure is not predicted. Sulphuric acid has a very low vapour pressure and will rapidly dissociate in the atmosphere (on contact with atmospheric moisture) to form the ubiquitous hydrogen (hydronium) and sulphate ions. As such it is considered that there is no atmospheric risk to the environment.

12.2 Persistence and degradability

Sulphuric acid does not fulfill the P or vP criteria.

12.3 Bioaccumulative potential

Sulphuric acid does not fulfill the B or vB criteria.

12.4 Mobility in soil

Sulfuric acid dissociates easily into hydrogen ions and sulfate ions, both of which are ubiquitous in the environment, in the soil and does not constitute a threat to the terrestrial environment.
Very mobile in soil. Mobility increases with dilution. Moving in the soil can dissolve soil components, particularly components containing carbonates.

12.5 Results of PBT and vPvB assessment

PBT : Sulphuric acid is neither a PBT nor a vPvB substance.

vPvB : Sulphuric acid is neither a PBT nor a vPvB substance.

12.6 Endocrine disrupting properties

No information on its endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

12.7 Other adverse effects

No data.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Examine possibilities for re-utilization. Product residues and uncleaned empty containers should be packaged, sealed, labeled, and disposed of or recycled according to relevant national and local regulations. Disposal of waste should be dealt with the specialized companies.
Where large quantities are concerned, consult the supplier.
In case of leakage or spill of sulfuric acid, see - section 6 of the safety data sheet.
European Waste Code 06 01 01* – sulphuric acid and sulphurous acid
Waste code for acid packaging waste 15 01 10* - packaging containing residues of or contaminated by hazardous substances.

SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1. UN Number	UN 1830	UN1830	UN1830
14.2. UN Proper Shipping Name	CORROSIVE LIQUID, N.O.S (SULFURIC ACID)	CORROSIVE LIQUID, N.O.S (SULFURIC ACID)	CORROSIVE LIQUID, N.O.S (SULFURIC ACID)
14.3. Transport Hazard Class(es)	8 	8 	8 
14.4. Packing Group	II	II	II
14.5. Environmental Hazards	See section 12.	See section 12.	See section 12.
14.6. Special Precautions for users	As for hazardous materials. See section 12.	As for hazardous materials. See section 12.	As for hazardous materials. See section 12.

14.7 Maritime transport in bulk according to IMO instruments

Has no use

SECTION 15: Regulatory information

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

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EEC and 2000/21/EC. (Official Journal of the European Union of 30.12.2006, L 396. with later changes)

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (Official Journal of the European Union of 31.12.2008, L 353. with later changes)

Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors, amending Regulation (EC) No 1907/2006 and repealing Regulation (EU) No 98/2013

The acquisition, introduction, marketing, possession or use of this product by members of the general public is subject to the restrictions set out in Regulation (EU) 2019/1148. All suspicious transactions and significant disappearances and thefts should be reported to the relevant national contact point.

EC Regulation No. 273/2004 of the European Parliament and of the Council of 11 February 2004 on the circulation of category III drug precursors

This product is within the meaning of Regulation (EC) No. 273/2004 of the European Parliament and of the Council of 11 February 2004 on the circulation of category III drug precursors, category III drug precursor.

15.2 Chemical Safety Assessment:

The chemical safety assessment has been made.

SECTION 16: Other information

The data is confirmed based on the state of our knowledge, but does not determine how the production properties and cannot be used to justify legally binding contracts.

Abbreviations; acronyms and full text of H-Statements

H225	:	Highly flammable liquid and vapour.
H290	:	May be corrosive to metals.
H300	:	Fatal if swallowed
H301	:	Toxic if swallowed.
H302	:	Harmful if swallowed.
H310	:	Fatal in contact with skin
H312	:	Harmful in contact with skin.
H314	:	Causes severe skin burns and eye damage.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H330	:	Fatal if inhaled
H331	:	Toxic if inhaled.
H332	:	Harmful if inhaled.

H334	:	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	:	May cause respiratory irritation.
H341	:	Suspected of causing genetic defects.
H350i	:	May cause cancer by inhalation.
H360D	:	May damage the unborn child.
H361d	:	Suspected of damaging the unborn child.
H372	:	Causes damage to organs through prolonged or repeated exposure.
H373	:	May cause damage to organs through prolonged or repeated exposure.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.
H411	:	Toxic to aquatic life with long lasting effects
H412	:	Harmful to aquatic life with long lasting effects.
Met. Corr. 1	:	Corrosive to metals, Category 1
Repr. 2	:	Reproductive toxicity, Category 2
Acute Tox. 4	:	Acute toxicity, Category 4
Aquatic Chronic 2	:	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Aquatic Chronic 3	:	Hazardous to the aquatic environment, chronic, Category 3
Eye Irrit. 2,	:	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
Eye Dam. 1,	:	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
Skin Corr. 1A	:	Skin corrosion/irritation, Category 1, Sub-Category 1A
Skin Corr. 1B	:	Skin corrosion/irritation, Category 1, Sub-Category 1B
Skin Irrit. 2,	:	SKIN CORROSION/IRRITATION - Category 2
STOT RE 2	:	Specific target organ toxicity - repeated exposure, Category 2
STOT SE 3	:	Specific target organ toxicity - single exposure, Category 3
NDS	:	The highest acceptable concentration
NDSCh	:	Highest Permissible Temporary Concentration
NDSP	:	Maximum Allowable Ceiling Concentration
REACH	:	Registration, Evaluation, Authorisation and Restriction of Chemical
MARPOL	:	(from Marine Pollutant) International Convention for the Prevention of Marine Pollution from Ships
N/A	:	Not applicable
N/D	:	Not determined
NE	:	Not established
VOC	:	Volatile Organic Compound
AICS	:	Australian Inventory of Chemical Substances
AIHA WEEL	:	American Industrial Hygiene Association Workplace Environmental Exposure Limits
DSL	:	Domestic Substance List (Canada)
ELINCS	:	European List of Notified Chemical Substances
ENCS	:	Existing and new Chemical Substances (Japanese inventory)
IECSC	:	Inventory of Existing Chemical Substances in China
KECI	:	Korean Existing Chemicals Inventory
NDSL	:	Non-Domestic Substances List (Canada)
NZIoC	:	New Zealand Inventory of Chemicals
PICCS	:	Philippine Inventory of Chemicals and Chemical Substances

TLV	:	Threshold Limit Value (American Conference of Governmental Industrial Hygienists)
TSCA	:	Toxic Substances Control Act (U.S. inventory)
UVCB	:	Substances of Unknown or Variable composition, Complex reaction products or Biological materials
IBC Code	:	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
UN	:	United Nations (also UNO: United Nations Organization)
NOEC	:	No Observed Effect Concentration
NOELR	:	No Observable Effect Loading Rate
OECD	:	Organization for Economic Co-operation and Development
ASTM	:	American Society for Testing and Materials
WAF	:	Water Accommodated Fraction
ADR	:	Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG	:	International Maritime Code for Dangerous Goods
IATA	:	International Air Transport Association
GHS	:	Globally Harmonised System of Classification and Labeling of Chemicals
EINECS	:	European Inventory of Existing Commercial Chemical Substances
CAS	:	Chemical Abstracts Service (division of the American Chemical Society)
DNEL	:	Derived No-Effect Level (REACH)
PNEC	:	Predicted No-Effect Concentration (REACH)
LC	:	Lethal Concentration
LD	:	Lethal Dose
LL	:	Lethal Loading
EC	:	Effective Concentration
EL	:	Effective Loading
LC50	:	Lethal concentration, 50 percent
LD50	:	Lethal dose, 50 percent
EC50	:	The concentration of the test substance that causes 50% change in response (e.g. to growth) over a specified time period
PBT	:	Persistent, Bioaccumulative and Toxic
vPvB	:	very Persistent and very Bioaccumulative
Acute Tox, 4	:	Acute toxicity - Category 4

Notice to reader	:	The information contained herein is accurate to the latest knowledge and describes the product from the point of view of help and environmental protection as well as safe handling. The information presented in this SDS refers to the technical product only and will not apply to any processed product. Final determination of the suitability of any materials for the chosen application(s) is the sole responsibility of the user"