

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 21 Mar 2023

Print date: 4 Apr 2023

Version: 8



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NITROGLYCERIN 2 % IN LACTOSE

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

1.1. Product identifier

Trade name/designation:

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

Use of the substance/mixture:

Active agent

1.3. Details of the supplier of the safety data sheet

Supplier (manufacturer/importer/only representative/downstream user/distributor):

Valsynthese S. A.

Société Suisse des Explosifs Group

Fabrikstrasse 48

3900 Brig

Switzerland

Telephone: +41 27 922 71 11

Telefax: +41 27 922 72 00

E-mail: info@valsynthese.ch

Website: www.valsynthese.ch

E-mail (competent person): msds@sse-group.com

1.4. Emergency telephone number

United States of America: Poison control center - national hotline number 1-800-222-1222

Great Britain: National phone number 111

Belgium: Centre antipoisons +32 070 245 245 / Bulgaria: +359 2 9154 233 / Croatia: +3851 2348

342 / Cyprus: +357 1401 / Czech Republic: +420 224 919 293, +420 224 915 402 / Denmark: +45 82

12 12 12 / Estonia: +372 16662, +372 7943 794 / Finland: +358 09 471 77 / France: numéro ORFILA

(INRS) : +33 (0)1 45 42 59 59 / Greece: +30 21077 93777 / Hungary: +36 80 201 199 (24 hours) /

Ireland: +353 (1) 809 2166 / Italy: +39 06 4997800 / Lithuania: +370 (85) 2362052 / Luxembourg:

+352 8002 5500 / The Netherlands: +31 (0) 30 274 8888 / Norway: +47 22 59 13 00 / Portugal: +351

800 250 250 / Romania: +402 213 183 606 / Slovakia: +421 2 5477 4166 / Spain: National Emergency

Telephone Number: +34 91 562 04 20 / Sweden: +46 112 (emergency 24 hours), +46 08-331231 (monfri 9.00-17.00).

European Union: Call 112 if no specific phone number available., +41 27 922 71 11 (Only available during office hours.)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Hazard classes and hazard categories	Hazard statements	Classification procedure
Acute toxicity (dermal) (<i>Acute Tox. 4</i>)	H312: Harmful in contact with skin.	Calculation method.

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* 2.2. Label elements

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

Hazard pictograms:



GHS07

Exclamation mark

Signal word: Warning

Hazard statements for health hazards

H312	Harmful in contact with skin.
------	-------------------------------

Supplemental hazard information: none

Precautionary statements Prevention

P280	Wear protective gloves/eye protection.
------	--

Precautionary statements Response

P302 + P352	IF ON SKIN: Wash with plenty of water/Soap.
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P312	Call a POISON CENTER/doctor/etc. if you feel unwell.
------	--

2.3. Other hazards





Other adverse effects:

Risk of decomposition in case of contact with acids or alkalines.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous ingredients / Hazardous impurities / Stabilisers:

Product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concentration
CAS No.: 10039-26-6	Milchzucker The substance is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].	98 weight-%
CAS No.: 55-63-0 EC No.: 200-240-8 Index No.: 603-034-01-7 REACH No.: 01-2119488893-18-XXXX	glycerol trinitrate Acute Tox. 1 (H310, H300), Acute Tox. 2 (H330), Aquatic Chronic 2 (H411), Expl. 1.1 (H201), STOT RE 2 (H373**)     Danger	2 weight-%

Full text of H- and EUH-phrases: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information:

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Remove victim out of the danger area. If unconscious but breathing normally, place in recovery position and seek medical advice. Do not leave affected person unattended. Warning First aider: Pay attention to self-protection!

Following inhalation:

Provide fresh air. In case of inhalation of decomposition products, affected person should be moved into fresh air and kept still. Hazardous decomposition products: Nitrogen oxides (NOx). Call a physician immediately.

In case of skin contact:

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing. Get immediate medical advice/attention.

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After eye contact:

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Remove contact lenses, if present and easy to do. Continue rinsing.

Following ingestion:

Rinse mouth. Let water be drunken in little sips (dilution effect).

Self-protection of the first aider:

Wear personal protection equipment (refer to section 8).

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

Respiratory paralysis, low blood pressure, accompanied by severe headache, dizziness, narcosis, intoxication, euphoria, nausea, vomiting.

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

No data available

SECTION 5: Firefighting measures

* 5.1. Extinguishing media

Suitable extinguishing media:

Carbon dioxide (CO₂), alcohol resistant foam, Dry extinguishing powder

Unsuitable extinguishing media:

Full water jet

5.2. Special hazards arising from the substance or mixture

In contact with water, pure nitroglycerin may separate and there is a risk of subsequent detonation due to heat, shock or friction.

Hazardous combustion products:

Carbon dioxide (CO₂), Carbon monoxide, Nitrogen oxides (NO_x)

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Personal precautions:

Keep away unprotected persons. Avoid contact with eyes and skin. Remove persons to safety.

Protective equipment:

Wear protective gloves/protective clothing/eye protection/face protection.

6.1.2. For emergency responders

Personal protection equipment:

Personal protection equipment: see section 8

* 6.2. Environmental precautions

Do not allow to enter into surface water or drains. Retain contaminated washing water and dispose it.

6.3. Methods and material for containment and cleaning up

For containment:

Take up mechanically, placing in appropriate containers for disposal.

For cleaning up:

In contact with water, pure nitroglycerin may separate and there is a risk of subsequent detonation due to heat, shock or friction.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

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6.5. Additional information

Use appropriate container to avoid environmental contamination.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protective measures

Advices on safe handling:

Wear personal protection equipment (refer to section 8). Take off immediately all contaminated clothing and wash it before reuse.

Fire prevent measures:

Take precautionary measures against static discharges. Keep away from sources of ignition - No smoking.

Advices on general occupational hygiene

When using do not eat, drink or smoke.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions:

Keep container tightly closed in a cool, well-ventilated place. Protect from moisture.

Requirements for storage rooms and vessels:

Make sure spills can be contained, e.g. in sump pallets or kerbed areas.

Hints on storage assembly:

Do not store together with:
strong acids and alkalis, Water

Storage class (TRGS 510, Germany): 11 - Combustible solids that cannot be assigned to any of the above storage classes

7.3. Specific end use(s)

No data available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. Occupational exposure limit values

Limit value type (country of origin)	Substance name	① Long-term occupational exposure limit value ② Short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
ES from 1 Jan 2016	glycerol trinitrate CAS No.: 55-63-0 EC No.: 200-240-8	① 0.01 ppm (0.094 mg/m ³) ② 0.02 ppm (0.19 mg/m ³) ⑤ (puede ser absorbido a través dérmica) VLI, vía dérmica
IOELV (EU) from 21 Feb 2017	glycerol trinitrate CAS No.: 55-63-0 EC No.: 200-240-8	① 0.01 ppm (0.095 mg/m ³) ② 0.02 ppm (0.19 mg/m ³) ⑤ (may be absorbed through the skin)
WEL (GB) from 21 Aug 2018	glycerol trinitrate CAS No.: 55-63-0 EC No.: 200-240-8	① 0.01 ppm (0.095 mg/m ³) ② 0.02 ppm (0.19 mg/m ³) ⑤ (may be absorbed through the skin)
VRI (FR) from 1 Jul 2020	glycerol trinitrate CAS No.: 55-63-0 EC No.: 200-240-8	① 0.01 ppm (0.095 mg/m ³) ② 0.02 ppm (0.19 mg/m ³) ⑤ (peut être absorbé par la peau)
IDLH (US) from 1 Jan 1994	glycerol trinitrate CAS No.: 55-63-0 EC No.: 200-240-8	① 75 mg/m ³

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Limit value type (country of origin)	Substance name	① Long-term occupational exposure limit value ② Short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
OSHA (US)	glycerol trinitrate CAS No.: 55-63-0 EC No.: 200-240-8	③ 0.2 ppm (2 mg/m ³) ⑤ (may be absorbed through the skin)
NIOSH (US)	glycerol trinitrate CAS No.: 55-63-0 EC No.: 200-240-8	② 0.1 mg/m ³ ⑤ (may be absorbed through the skin)
ACGIH (US)	glycerol trinitrate CAS No.: 55-63-0 EC No.: 200-240-8	① 0.05 ppm (0.46 mg/m ³) ⑤ (may be absorbed through the skin)

8.1.2. Biological limit values

Limit value type (country of origin)	Substance name	Limit value	① Parameter ② Test material ③ Time of sampling: ④ Remark
BMGV (GB)	glycerol trinitrate CAS No.: 55-63-0 EC No.: 200-240-8	15 µmol/mol creatinine	① total nitroglycols ② urine ④ At the end of the period of exposure

8.1.3. DNEL-/PNEC-values

No data available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Provide adequate ventilation as well as local exhaustion at critical locations.

8.2.2. Personal protection equipment



Eye/face protection:

Wear tightly sealed safety glasses in accordance to EN 166.

Skin protection:

Use protective gloves in accordance to EN 374. The following material is suitable: NBR Breakthrough time: > 6h. Wear protective clothes against chemical agents in accordance to EN 368 or EN465.

Respiratory protection:

In case of inadequate ventilation wear respiratory protection. Respiratory protection according to EN 136 or EN 140 with filter ABEK-P3.

8.2.3. Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state: solid

Colour: white

Odour: Faint smell of lactose

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Safety relevant basis data

Parameter	Value	at °C	① Method ② Remark
pH	not determined		
Melting point	202 °C		② lactose
Freezing point	not determined		
Initial boiling point and boiling range	not determined		
Decomposition temperature	212 °C		② glycerol trinitrate
Flash point	not determined		
Evaporation rate	not determined		
Auto-ignition temperature	390 °C		
Upper/lower flammability or explosive limits	not determined		
Vapour pressure	0.00033 hPa	20 °C	② glycerol trinitrate
Vapour density	not determined		
Density	0.5 g/cm ³	20 °C	
Relative density	not determined		
Bulk density	not determined		
Water solubility	161 g/L	20 °C	② lactose (glycerol trinitrate: Water solubility 1.25)
Partition coefficient: n-octanol/water	-5.03	20 °C	
Dynamic viscosity	not determined		
Kinematic viscosity	not determined		

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reaction with: Acids, alkalines, Oxidising agent, strong, Reducing agent, strong

10.2. Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

No known hazardous reactions.

10.4. Conditions to avoid

Heat, flames and sparks. Water, Do not expose to temperatures exceeding 50 °C/122 °F.

10.5. Incompatible materials

strong acids and alkalis, Water, Oxidising agent, strong, Reducing agent, strong

10.6. Hazardous decomposition products

Nitrogen oxides (NO_x)

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

glycerol trinitrate CAS No.: 55-63-0 EC No.: 200-240-8

LD₅₀ oral: 105 mg/kg (Rat)

LD₅₀ dermal: 29.2 mg/kg (Rat)

Acute oral toxicity:

Based on available data, the classification criteria are not met.

Acute dermal toxicity:

Harmful in contact with skin.

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Acute inhalation toxicity:

Based on available data, the classification criteria are not met.

Skin corrosion/irritation:

Based on available data, the classification criteria are not met.

Serious eye damage/irritation:

Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation:

Based on available data, the classification criteria are not met.

Germ cell mutagenicity:

Based on available data, the classification criteria are not met.

Carcinogenicity:

Based on available data, the classification criteria are not met.

Reproductive toxicity:

Based on available data, the classification criteria are not met.

STOT-single exposure:

Based on available data, the classification criteria are not met.

STOT-repeated exposure:

Based on available data, the classification criteria are not met.

Aspiration hazard:

Based on available data, the classification criteria are not met.

* 11.2. Information on other hazards

Endocrine disrupting properties:

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

SECTION 12: Ecological information

12.1. Toxicity

glycerol trinitrate CAS No.: 55-63-0 EC No.: 200-240-8

LC₅₀ : 3.58 mg/L 4 d (Pimephales promelas (fathead minnow))

EC₅₀ : 1.15 mg/L 4 d (Selenastrum capricornutum)
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EC₅₀ : 17.8 mg/L 2 d (Ceriodaphnia spec)
--

NOEC : 3.23 mg/L 4 d (Ceriodaphnia spec)

NOEC : 0.37 mg/L 4 d (Selenastrum capricornutum)

Aquatic toxicity:

Based on available data, the classification criteria are not met.

12.2. Persistence and degradability

Milchzucker CAS No.: 10039-26-6
--

Biodegradation : Yes, rapidly

glycerol trinitrate CAS No.: 55-63-0 EC No.: 200-240-8

Biodegradation : —

12.3. Bioaccumulative potential

Partition coefficient: n-octanol/water:

-5.03 at °C: 20

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

Milchzucker CAS No.: 10039-26-6
--

Results of PBT and vPvB assessment : This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
--

glycerol trinitrate CAS No.: 55-63-0 EC No.: 200-240-8

Results of PBT and vPvB assessment : This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
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* 12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

The product may not be eliminated as municipal solid waste nor allowed to end up in the drainage system. These packs can be delivered packaging-specific to the existing collection points for hazardous waste.

13.1.1. Product/Packaging disposal

Waste codes/waste designations according to EWC/AVV

Waste code product

07 05 13 *	Solid wastes containing hazardous substances
------------	--

*: Evidence for disposal must be provided.

Remark:

Wastecode according to regulation EU 2014/955

Waste code packaging

15 01 10 *	packaging containing residues of or contaminated by dangerous substances
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*: Evidence for disposal must be provided.

Remark:

Wastecode according to regulation EU 2014/955

Waste treatment options

Appropriate disposal / Product:

Pick up product with sawdust in a ratio of 1:10 and return to the manufacturer. Burn in an open hearth only in accordance with local government regulations.

Appropriate disposal / Package:

Residues of the product and packaging have to be collected as hazardous waste.

SECTION 14: Transport information

Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1. UN number or ID number			
No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.
14.2. UN proper shipping name			
No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.
14.3. Transport hazard class(es)			
not relevant	not relevant	not relevant	not relevant
14.4. Packing group			
not relevant	not relevant	not relevant	not relevant
14.5. Environmental hazards			
not relevant	not relevant	not relevant	not relevant
14.6. Special precautions for user			
not relevant	not relevant	not relevant	not relevant

14.7. Maritime transport in bulk according to IMO instruments

No data available

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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 legislation

Other regulations (EU):

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances [Seveso-III-Directive]: This product is not assigned to a hazard category.

15.1.2. National regulations

No data available

15.2. Chemical Safety Assessment

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information

16.1. Indication of changes

2.2.	Label elements
5.1.	Extinguishing media
6.2.	Environmental precautions
11.2.	Information on other hazards
12.6.	Endocrine disrupting properties
15.1.	Safety, health and environmental regulations/legislation specific for the substance or mixture

16.2. 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

CAS Chemical Abstract Service

CLP Classification, labelling and Packaging

EC₅₀ Effective Concentration 50%

EN European norm

IATA International Air Transport Association

IMDG-Code International Maritime Dangerous Goods Code

LC₅₀ Lethal Concentration 50%

LD₅₀ Lethal Dose 50%

OECD Organization for Economic Cooperation and Development

PBT persistent, bioaccumulative, toxic

PNEC Predicted No Effect Concentration

REACH Registration, Evaluation and Authorization of Chemicals

RID Regulations concerning the international carriage of dangerous goods by rail

SVHC Substance of Very High Concern

UN United Nations

VOC Volatile organic compounds

vPvB very persistent, very bioaccumulative

16.3. Key literature references and sources for data

Security safety data sheet of the ingredients. GESTIS database. Inventory of substances of the European Chemical Agency (ECHA).

16.4. Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

Hazard classes and hazard categories	Hazard statements	Classification procedure
Acute toxicity (dermal) (<i>Acute Tox.</i> 4)	H312: Harmful in contact with skin.	Calculation method.

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16.5. Relevant R-, H- and EUH-phrases (Number and full text)

Hazard statements	
H201	Explosive; mass explosion hazard.
H300	Fatal if swallowed.
H310	Fatal in contact with skin.
H330	Fatal if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.

16.6. Training advice

Persons charged with the handling and cleaning of the product must be trained prior to start their work and in regular intervals. They must be informed about the risks using the product and the measures to take for efficient prevention. This concerns particularly working security, first aid, health and environment protection.

16.7. Additional information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

* Data changed compared with the previous version.