

SAFETY DATA SHEET

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

Revision date: 4 Apr 2023

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Version: 8



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

1.1. Product identifier

Trade name/designation:

butyl nitrite

Additional information:

Restricted to professional users.

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

Use of the substance/mixture:

Intermediate for the chemical industry

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
flammable liquids (<i>Flam. Liq. 2</i>)	H225: Highly flammable liquid and vapour.	Calculation method.
Acute toxicity (oral) (<i>Acute Tox. 3</i>)	H301: Toxic if swallowed.	Calculation method.
Acute toxicity (inhalative) (<i>Acute Tox. 3</i>)	H331: Toxic if inhaled.	Calculation method.

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2.2. Label elements

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

Hazard pictograms:



GHS02
Flame



GHS06
Skull and crossbones

Signal word: Danger

Hazard statements for physical hazards

H225	Highly flammable liquid and vapour.
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Hazard statements for health hazards

H301 + H331	Toxic if swallowed or if inhaled.
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Supplemental hazard information: none

Precautionary statements Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261	Avoid breathing vapours and spray.

Precautionary statements Response

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/etc..
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Precautionary statements Storage

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
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2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Hazardous ingredients / Hazardous impurities / Stabilisers:

Product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concentration
CAS No.: 544-16-1 EC No.: 208-862-1 Index No.: 007-016-00-7 REACH No.: 01-2120767599-31-0001	Butyl nitrite Acute Tox. 3 (H331, H301), Flam. Liq. 2 (H225)   Danger	≤ 100 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. Remove contaminated, saturated clothing. 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 respiratory tract irritation, consult a physician. Get immediate medical advice/attention.

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In case of skin contact:

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing.

After eye contact:

In case of contact with eyes, rinse immediately thoroughly with plenty of edible oil and consult an ophthalmologist.

Following ingestion:

Rinse mouth. Let water be drunken in little sips (dilution effect). Do NOT induce vomiting. Get medical advice/attention if you feel unwell. If breathing is irregular or stopped, administer artificial respiration. No mouth-to-mouth or mouth-to-nose resuscitation. Use Ambu bag or ventilator.

Self-protection of the first aider:

Use personal protection equipment. No direct artificial respiration to be given by first aider.

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

No data available

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water spray jet, alcohol resistant foam, Extinguishing powder, Carbon dioxide (CO₂)

Unsuitable extinguishing media:

Full water jet

5.2. Special hazards arising from the substance or mixture

Combustible. Thermally unstable. Easily decomposable. May explode when heated.

Hazardous combustion products:

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

5.3. Advice for firefighters

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

5.4. Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

* 6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Personal precautions:

Remove persons to safety. Protect from heat and direct sunlight.
Keep away from sources of ignition - No smoking.

Protective equipment:

Wear protective gloves/eye 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. In case of release of larger quantities, inform competent authorities.

6.3. Methods and material for containment and cleaning up

For containment:

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Provide for retaining containers, e.g. floor pan without outflow.

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6.4. Reference to other sections

Safe handling: see section 7 Personal protection equipment: see section 8 Disposal: see section 13

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). Use closed equipment if possible. Use only antistatically equipped (spark-free) tools.

Fire prevent measures:

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

Advices on general occupational hygiene

When using do not eat, drink or smoke. Avoid contact with eyes and skin.

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 heat and direct sunlight.

Keep away from sources of ignition - No smoking. Recommended storage temperature: 2-8 °C The accumulation in lowlying or closed rooms can cause increased danger of fire and explosion.

Packaging materials:

Keep/Store only in original container.

Hints on storage assembly:

Do not store together with strong acids. Keep away from oxidising agents.

Do not store together with: Reducing agent

Storage class (TRGS 510, Germany): 3 - Flammable liquids

Further information on storage conditions:

Storage in the chemical cabinet. Quantities above 100 kg: Storage room with adequate explosion protection.

7.3. Specific end use(s)

No data available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No data available

* 8.2. Exposure controls

8.2.1. Appropriate engineering controls

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

8.2.2. Personal protection equipment



Eye/face protection:

Eye glasses with side protection EN 166

Skin protection:

Wear multi layer protective glove based on fluor or brombutyle rubber according to EN 374. Min. layer thickness: 0.6 mm.. Breakthrough time: No data available. Wear anti-static footwear and clothing. Wear protective clothes against chemical agents in accordance to EN 340 / EN 14605.

Respiratory protection:

In exceptional situations (e.g. unintentional release of substances) it is necessary to wear respiratory protection. Respiratory protection according to EN 136 or EN 140 with filter ABEK-P3.

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8.2.3. Environmental exposure controls

No data available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state: Liquid

Colour: yellow

Odour: not determined

Safety relevant basis data

Parameter	Value	at °C	① Method ② Remark
pH	not determined		
Melting point	-35.35 °C		
Freezing point	not determined		
Initial boiling point and boiling range	78 °C		
Decomposition temperature	78 °C		
Flash point	-13 °C		
Evaporation rate	not determined		
Auto-ignition temperature	not determined		
Upper/lower flammability or explosive limits	not determined		
Vapour pressure	126 hPa	25 °C	
Vapour density	not determined		
Density	0.843 g/cm ³	20 °C	
Relative density	not determined		
Bulk density	not determined		
Water solubility	1,116 mg/L	25 °C	
Partition coefficient: n-octanol/water	2.35	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

Highly flammable liquid and vapour. Very reactive with organic materials.

Reacts with oxidizing agents, reducing agents, finely powdered metals and acids.

10.2. Chemical stability

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

* 10.3. Possibility of hazardous reactions

Polymerization after heating.

10.4. Conditions to avoid

Heat, Light, Incompatible materials

10.5. Incompatible materials

Oxidizing agent, Reducing agent, Finely powdered metals

* 10.6. Hazardous decomposition products

nitrous gases

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SECTION 11: Toxicological information

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

Butyl nitrite CAS No.: 544-16-1 EC No.: 208-862-1
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LD₅₀ oral: 83 mg/kg (Rat) OECD 401
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Acute oral toxicity:

Toxic if swallowed.

Acute dermal toxicity:

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

Acute inhalation toxicity:

Toxic if inhaled.

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.

Additional information:

No data available

* **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

Aquatic toxicity:

Classification criteria for damage to aquatic organisms not met..

12.2. Persistence and degradability

No data available

* **12.3. Bioaccumulative potential**

Partition coefficient: n-octanol/water:

2.35 at °C: 20

Accumulation / Evaluation:

No indication of bioaccumulation potential.

12.4. Mobility in soil

No data available

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12.5. Results of PBT and vPvB assessment

Butyl nitrite CAS No.: 544-16-1 EC No.: 208-862-1

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

* 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

Do not allow to enter into surface water or drains. Hand over the product, including partially emptied packaging, to an authorised hazardous waste disposal company or a hazardous waste collection point.

13.1.1. Product/Packaging disposal

Waste codes/waste designations according to EWC/AVV

Waste code product

07 07 04 * other organic solvents, washing liquids and mother liquors

*: Evidence for disposal must be provided.

Waste code packaging

15 01 10 * packaging containing residues of or contaminated by dangerous substances

*: Evidence for disposal must be provided.

Waste treatment options

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			
UN 2351	UN 2351	UN 2351	UN 2351
14.2. UN proper shipping name			
BUTYL NITRITES	BUTYL NITRITES	BUTYL NITRITES	BUTYL NITRITES
14.3. Transport hazard class(es)			
 3	 3	 3	 3
14.4. Packing group			
II	II	II	II
14.5. Environmental hazards			
No	No	No	No
14.6. Special precautions for user			
Limited quantity (LQ): 1 L Excepted Quantities (EQ): E2 Hazard identification number (Kemler No.): 33 Classification code: F1	Limited quantity (LQ): 1 L Excepted Quantities (EQ): E2 Classification code: F1	Limited quantity (LQ): 1 L Excepted Quantities (EQ): E2 EmS-No.: F-E, S-D	Limited quantity (LQ): 1L Excepted Quantities (EQ): E2

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Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
Tunnel restriction code: (D/E)			

14.7. Maritime transport in bulk according to IMO instruments

No data available

SECTION 15: Regulatory information

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

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

1.2.	Relevant identified uses of the substance or mixture and uses advised against
4.1.	Description of first aid measures
6.1.	Personal precautions, protective equipment and emergency procedures
8.2.	Exposure controls
10.3.	Possibility of hazardous reactions
10.6.	Hazardous decomposition products
11.2.	Information on other hazards
12.3.	Bioaccumulative potential
12.6.	Endocrine disrupting properties
15.1.	Safety, health and environmental regulations/legislation specific for the substance or mixture
16.3.	Key literature references and sources for data

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. Inventory of substances of the European Chemical Agency (ECHA). GESTIS database

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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
flammable liquids (<i>Flam. Liq. 2</i>)	H225: Highly flammable liquid and vapour.	Calculation method.
Acute toxicity (oral) (<i>Acute Tox. 3</i>)	H301: Toxic if swallowed.	Calculation method.
Acute toxicity (inhalative) (<i>Acute Tox. 3</i>)	H331: Toxic if inhaled.	Calculation method.

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

Hazard statements	
H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H331	Toxic if inhaled.

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 makeup material.

* Data changed compared with the previous version.