

# SAFETY DATA SHEET

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

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## butyl nitrite

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

#### 1.1. Product identifier

Trade name/designation:

butyl nitrite

#### 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 Republic of Ireland: National phone number 01 809 2166 Czech Republic: Toxikologické informační středisko +420 224 919 293, +420 224 915 402 Denmark: Giftlinjen +45 82 12 12 12 France: numéro ORFILA (INRS) : +33 (0)1 45 42 59 59 Italy: 06-3054343 (24h/24h), Centro antiveneni Policlinico Umberto I, Roma Spain: National Emergency Telephone Number: +34 91 562 04 20. The information will be provided in Spanish (24h/365 days). Sweden: +46 112 in case of emergency poisoning and ask for Poison Information both day and night. +46 08-331231 if you have other questions concerning acute poisonings mon-fri 9.00-17.00., +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: -

#### Precautionary statements Prevention

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

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/etc..
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P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
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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 REACH No.: 01-2120767599-31-0001	<b>Butyl nitrite</b> Acute Tox. 3, Flam. Liq. 2   <b>Danger</b> H225-H301-H331	≤ 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!

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### Following inhalation:

Provide fresh air. In case of respiratory tract irritation, consult a physician. Get immediate medical advice/attention.

### 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 drunk in little sips (dilution effect). 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 (CO<sub>2</sub>),

#### 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 (CO<sub>2</sub>), Nitrogen oxides (NO<sub>x</sub>)

### 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/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. In case of release of larger quantities, inform competent authorities.

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### 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.

### 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: 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 DIN EN 166

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### 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.

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

### 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

No known hazardous reactions.

### 10.4. Conditions to avoid

Heat, Light, Incompatible materials

### 10.5. Incompatible materials

Oxidizing agent, Reducing agent, Finely powdered metals

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### \* 10.6. Hazardous decomposition products

No known hazardous decomposition products.

## SECTION 11: Toxicological information

### \* 11.1. Information on toxicological effects

Substance name	Toxicological information
Butyl nitrite CAS No.: 544-16-1 EC No.: 208-862-1	<b>LD<sub>50</sub> oral:</b> 83 mg/kg (Rat) OECD 401

#### 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

## 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

### 12.4. Mobility in soil

No data available

### 12.5. Results of PBT and vPvB assessment

Substance name	Results of PBT and vPvB assessment
Butyl nitrite CAS No.: 544-16-1	The substance in the mixture does not meet the PBT/ vPvB criteria according to REACH, annex XIII.

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Substance name	Results of PBT and vPvB assessment
EC No.: 208-862-1	

### 12.6. 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)
<b>14.1. UN-No.</b>			
UN 2351	UN 2351	UN 2351	UN 2351
<b>14.2. UN proper shipping name</b>			
BUTYL NITRITES	BUTYL NITRITES	BUTYL NITRITES	BUTYL NITRITES
<b>14.3. Transport hazard class(es)</b>			
 3	 3	 3	 3
<b>14.4. Packing group</b>			
II	II	II	II
<b>14.5. Environmental hazards</b>			
No	No	No	No

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Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
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### 14.6. Special precautions for user

Special provisions: Limited quantity (LQ): 1 L Excepted Quantities (EQ): E2 Hazard identification number (Kemler No.): 33 Classification code: F1 tunnel restriction code: (D/E) Remark:	Special provisions: Limited quantity (LQ): 1 L Excepted Quantities (EQ): E2 Classification code: F1 Remark:	Special provisions: Limited quantity (LQ): 1 L Excepted Quantities (EQ): E2 EmS-No.: F-E, S-D Remark:	Special provisions: Limited quantity (LQ): 1L Excepted Quantities (EQ): E2 Remark:
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### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

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

2.2.	Label elements
3.1.	Substances
4.1.	Description of first aid measures
4.3.	Indication of any immediate medical attention and special treatment needed
5.4.	Additional information
6.5.	Additional information
7.1.	Precautions for safe handling
7.2.	Conditions for safe storage, including any incompatibilities
8.2.	Exposure controls
9.1.	Information on basic physical and chemical properties
10.6.	Hazardous decomposition products
11.1.	Information on toxicological effects
13.1.	Waste treatment methods
14.6.	Special precautions for user
15.1.	Safety, health and environmental regulations/legislation specific for the substance or mixture
15.2.	Chemical Safety Assessment

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### 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).

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

**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.

### 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 madeup material.

\* Data changed compared with the previous version