

SAFETY DATA SHEET

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

Revision date: 4 Apr 2023

Print date: 4 Apr 2023

Version: 7

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tert-BUTYL NITRIT

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

1.1. Product identifier

Trade name/designation:

tert-BUTYL NITRIT

CAS No.:

540-80-7

Index No.:

007-019-00-3

EC No.:

208-757-0

REACH No.:

01-2120824171-67-0000

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

Use of the substance/mixture:

Intermediate for the chemical industry

Restricted to professional users.

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.	Harmonised (legal) classification.
Acute toxicity (oral) (<i>Acute Tox. 4</i>)	H302: Harmful if swallowed.	Harmonised (legal) classification.
Acute toxicity (inhalative) (<i>Acute Tox. 4</i>)	H332: Harmful if inhaled.	Harmonised (legal) classification.

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* 2.2. Label elements

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

Hazard pictograms:



GHS02
Flame



GHS07
Exclamation mark

Signal word: Danger

Hazard statements for physical hazards

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

H302 + H332	Harmful 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.
P243	Take action to prevent static discharges.
P280	Wear protective gloves/eye protection.

Precautionary statements Response

P301 + P312	IF SWALLOWED: Call a POISON CENTER/doctor/etc./ if you feel unwell.
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.

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.: 540-80-7 EC No.: 208-757-0 Index No.: 007-019-00-3	tert-butyl nitrite Acute Tox. 4 (H332, H302), 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:

Remove contaminated, saturated clothing. If unconscious but breathing normally, place in recovery position and seek medical advice. Do not leave affected person unattended. 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. Warning First aider: Pay attention to self-protection!

Following inhalation:

Provide fresh air. In case of respiratory tract irritation, consult a physician.

In case of skin contact:

After contact with skin, wash immediately with plenty of water and soap. If skin irritation or rash occurs: Get 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.

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.

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

Cough, shortness of breath, headache, nausea, vomiting, body absorption leads to the formation of Methaemoglobin, which causes increased cyanosis. The latency can be 2 to 4 hours or be longer., Blurred vision, palpitations.

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, Carbon dioxide (CO₂), Dry extinguishing powder

Unsuitable extinguishing media:

Full water jet

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products:

Gases/vapours, toxic 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:

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:

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).
Dispose of the residus of the product as hazardous waste (see section 13).

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.

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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 explosion-proof machinery, apparatus, ventilation facilities, tools etc.

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. Recommended storage temperature: 2-8 °C

Requirements for storage rooms and vessels:

Make sure spills can be contained, e.g. in sump pallets or kerbed areas. The accumulation in lowlying or closed rooms can cause increased danger of fire and explosion.

Hints on storage assembly:

Do not store together with:

Oxidizing agent, Reducing agent metals, Acids

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:

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.

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

No data available

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state: Liquid

Colour: yellow

Odour: Characteristic

Safety relevant basis data

Parameter	Value	at °C	① Method ② Remark
pH	not determined		
Melting point	not determined		
Freezing point	not determined		
Initial boiling point and boiling range	61 °C		
Decomposition temperature	not determined		
Flash point	-11 °C		
Evaporation rate	not determined		
Auto-ignition temperature	not determined		
Upper/lower flammability or explosive limits	not determined		
Vapour pressure	101 mm Hg	25 °C	
Vapour density	not determined		
Density	0.87 g/mL	20 °C	
Relative density	not determined		
Bulk density	not applicable		
Water solubility	easily soluble		
Partition coefficient: n-octanol/water	not determined		
Dynamic viscosity	not determined		
Kinematic viscosity	not determined		

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

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, exposure to light

10.5. Incompatible materials

Oxidizing agent, Reducing agent, Acids, Powdered metals

* 10.6. Hazardous decomposition products

nitrous gases

SECTION 11: Toxicological information

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

Acute oral toxicity:

Harmful if swallowed.

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Acute dermal toxicity:

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

Acute inhalation toxicity:

Harmful by inhalation.

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

Aquatic toxicity:

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

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

Accumulation / Evaluation:

No indication of bioaccumulation potential.

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

tert-butyl nitrite CAS No.: 540-80-7 EC No.: 208-757-0

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

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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

16 03 05 *	organic wastes containing hazardous substances
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*: Evidence for disposal must be provided.

Remark:

Wastecode according to regulation EU 2014/955

Waste code packaging

15 01 02	Plastic packaging
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Waste treatment options

Appropriate disposal / Product:

Eliminate the product as hazardous waste.

Appropriate disposal / Package:

Empty packaging can be recycled or eliminated as municipal solid 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): 5L Excepted Quantities (EQ): E1 Hazard identification number (Kemler No.): 33 Classification code: F1 Tunnel restriction code: (D/E)	Classification code: F1	No data available	No data available

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**

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
6.2.	Environmental precautions
6.3.	Methods and material for containment and cleaning up
8.2.	Exposure controls
10.3.	Possibility of hazardous reactions
10.6.	Hazardous decomposition products
11.2.	Information on other hazards
12.6.	Endocrine disrupting properties
13.1.	Waste treatment methods
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
flammable liquids (<i>Flam. Liq. 2</i>)	H225: Highly flammable liquid and vapour.	Harmonised (legal) classification.
Acute toxicity (oral) (<i>Acute Tox. 4</i>)	H302: Harmful if swallowed.	Harmonised (legal) classification.
Acute toxicity (inhalative) (<i>Acute Tox. 4</i>)	H332: Harmful if inhaled.	Harmonised (legal) classification.

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

Hazard statements	
H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H332	Harmful 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 made-up material.

* Data changed compared with the previous version.