

SAFETY DATA SHEET

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

Revision date: 04-Dec-2019

Print date: 11-Dec-2019

Version: 6

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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

REACH No.:

01-2120824171-67-0000

EC No.:

208-757-0

INDEX No.:

007-019-00-3

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.	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 (EU): -

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/protective clothing/eye protection/face 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	tert-butyl nitrite Acute Tox. 4, Flam. Liq. 2   Danger H225-H302-H332	100 Wt %

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 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.

After ingestion:

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

No data available

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.

6.3. Methods and material for containment and cleaning up

For containment:

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

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).

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: 3 - Flammable liquids

Further information on storage conditions:

Storage in the chemical cabinet. Quantities from 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

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state: Liquid

Colour: yellow

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Odour: Characteristic

Safety relevant basis data

parameter		at °C	Method	Remark
pH	<i>not determined</i>			
Melting point	<i>not determined</i>			
Freezing point	<i>not determined</i>			
Initial boiling point and boiling range	61 °C			
Decomposition temperature	<i>not determined</i>			
Flash point	-11 °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	101 mmHg	25 °C		
Vapour density	<i>not determined</i>			
Density	0.87 g/ml	20 °C		
Bulk density	<i>not applicable</i>			
Water solubility	easily soluble			
Partition coefficient: n-octanol/water	<i>not determined</i>			
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

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

None known.

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

None known.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity:

Harmful if swallowed.

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.

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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.

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

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

CAS No.	Substance name	Results of PBT and vPvB assessment
540-80-7	tert-butyl nitrite	The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. 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:

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 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.

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SECTION 14: Transport information

Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
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14.1. UN-No.

UN 2351	UN 2351	UN 2351	UN 2351
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14.2. UN proper shipping name

BUTYL NITRITES	BUTYL NITRITES	BUTYL NITRITES	BUTYL NITRITES
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14.3. Transport hazard class(es)

 3	 3	 3	 3
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14.4. Packing group

II	II	II	II
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14.5. Environmental hazards

No	No	No	No
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14.6. Special precautions for user

Special provisions: Limited quantity (LQ): 5L Excepted Quantities (EQ): E1 Hazard identification number (Kemler No.): 33 Classification code: F1 tunnel restriction code: (D/E) Remark:	Special provisions: Excepted Quantities (EQ): Classification code: F1 Remark:	Special provisions: Excepted Quantities (EQ): EmS-No.: Remark:	Special provisions: Excepted Quantities (EQ): Remark:
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14.7. Transport in bulk according to Annex II of MARPOL 73/78 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

This material safety data sheet has been revised completely and is considered new without any previous version.

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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. 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]

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

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.