

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## NITRALZ® Valeronitrile

Version 3.2 / REG\_EU

Revision Date: 09.07.2020

Specification: 153268

Material no.:

Date of first issue: 14.02.2007

Print Date: 02.08.2020

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

#### 1.1 Product identifier

Trade name : NITRALZ® Valeronitrile  
Registration number : 01-2119924848-24-XXXX  
CAS-No. : 110-59-8  
EC-No. : 203-781-8

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

Use of the Substance/Mixture : Raw material for industrial use, Chemical intermediate

#### 1.3 Details of the supplier of the safety data sheet

Company : AlzChem Trostberg GmbH  
Dr.-Albert-Frank-Str. 32  
83308 Trostberg, Germany  
Telephone : +49 8621 86-3351  
E-mail address of person responsible for the SDS : alz-pst@alzchem.com

#### 1.4 Emergency telephone number

Emergency telephone number : +49 8621 86-2776  
AlzChem Trostberg GmbH, Fire Brigade

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 3 H226: Flammable liquid and vapour.

Acute toxicity, Category 4 H302: Harmful if swallowed.

#### 2.2 Label elements

##### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Warning

Hazard statements : H226 Flammable liquid and vapour.  
H302 Harmful if swallowed.

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Precautionary statements : **Prevention:**  
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.

### **Response:**

P301 IF SWALLOWED:  
P330 Rinse mouth.  
P312 Call a POISON CENTER/ doctor if you feel unwell.

### 2.3 Other hazards

A PBT/vPvB evaluation is not available, since a chemical safety evaluation is not required / has not been carried out  
When heated, formation of flammable or explosive vapour/air mixtures possible.  
Vapours are heavier than air and may spread along floors.  
Is absorbed through the skin.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Substance name : Pentanenitrile

#### Components

Chemical name	CAS-No. EC-No.	Concentration (% w/w)
Valeronitrile	110-59-8 203-781-8	>= 95

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

General advice : Seek medical advice in case of symptoms caused by eye or skin contact, inhalation or swallowing.

If inhaled : See that there is fresh air.

In case of skin contact : Wash off with plenty of water and soap.

In case of eye contact : Rinse thoroughly with plenty of water, also under the eyelids.

If swallowed : Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting.

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

None known.

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

Treatment : Possible discomfort: nausea, gastro-intestinal complaints, drop in blood pressure, cyanosis due to production of met-haemoglobin.  
If necessary, administer activated charcoal (10-20g) and sodium sulfate (Glauber salt, 20g).

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media : Water spray, foam, CO<sub>2</sub>, dry powder.

Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.

### 5.2 Special hazards arising from the substance or mixture

Hazardous combustion products : Ammonia  
Carbon oxides  
nitrous gases  
Hydrocyanic acid (HCN)

### 5.3 Advice for firefighters

Special protective equipment for firefighters : In the case of fire, wear respiratory protective equipment independent of surrounding air and chemical protective suit.

Further information : Cool container with jet of water spray from a safe distance

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Wear personal protective equipment; see section 8.  
Ensure adequate ventilation.

### 6.2 Environmental precautions

Environmental precautions : Product or extinguishing water with product must not be allowed to enter soil, sewers or natural bodies of water.  
Dike or contain spill.  
Shut off source of leak if safe to do so.  
Avoid penetration into drainage system or in rooms situated at a lower level because of danger of explosion.

### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Remove all sources of ignition.  
Absorb with liquid-binding material, e. g.: diatomaceous earth, sand, universal binder  
Keep in suitable, closed containers for disposal.

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### 6.4 Reference to other sections

|| For disposal considerations see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

- Advice on safe handling : Ensure adequate ventilation.  
Do not allow individual / bulk containers to stand open
- Advice on protection against fire and explosion : Keep away from combustion sources such as sparks, flames and unprotected light sources Take precautionary measures against static discharges. Use only explosion-proof equipment.
- Hygiene measures : Keep away from food, drink and animal feedingstuffs. Do not inhale vapours / aerosols. Avoid contact with skin, eyes, and clothing. Take off clothing and shoes contaminated with product. Clean before reuse. Do not eat, drink or smoke while working. Wash hands, and/or face before breaks and when workday is finished. Keep away from food and drink.

### 7.2 Conditions for safe storage, including any incompatibilities

- Requirements for storage areas and containers : Keep containers tightly closed in a cool, well-ventilated place.
- Recommended storage temperature : < 35 °C
- Packaging material : Suitable material: Metal

### 7.3 Specific end use(s)

- Specific use(s) : We are unaware of any specific end uses which go beyond the data reported in Section 1.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

None known.

### 8.2 Exposure controls

#### Personal protective equipment

- Eye protection : Safety glasses
- Hand protection
- Material : Butyl-rubber, Recommendation: Butoject 898
- Break through time : > 480 min
- Glove thickness : 0,7 mm
- Directive : DIN EN 374
- Manufacturer : Kächele-Cama Latex GmbH (KCL), Germany

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Skin and body protection : Protective clothing

Respiratory protection : Use suitable respiratory protection where aerosols/vapours are generated.  
Respirator with ABEK-P2 combination filter

### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

Appearance : liquid

Colour : colourless

Odour : characteristic

pH : 7

Melting point/range : -96 °C

Boiling point/boiling range : 141 °C (1.013 hPa)

Flash point : 38 °C  
Method: DIN 51 755

Vapour pressure : 7 hPa (20 °C)  
13 hPa (31 °C)

Relative vapour density : 3,46

Density : 0,80 g/cm<sup>3</sup> (20 °C)

Solubility(ies)

Water solubility : ca. 10 g/l (20 °C)

Solubility in other solvents : completely miscible  
Solvent: Acetone  
completely miscible  
Solvent: Ether

Partition coefficient: n-octanol/water : log Pow: 1,12

Auto-ignition temperature : 520 °C

Explosive properties : not applicable

Oxidizing properties : not applicable

#### 9.2 Other information

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Molecular weight :  
83,13 g/mol

### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

|| See section 10.3

#### 10.2 Chemical stability

May decompose on long exposure to light.

#### 10.3 Possibility of hazardous reactions

Hazardous reactions : Reacts strongly with concentrated acids, lyes and oxidants

#### 10.4 Conditions to avoid

|| Conditions to avoid : Keep away from sources of heat, flames and sparks.

#### 10.5 Incompatible materials

Materials to avoid : acids, bases, strong oxidant.

#### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions.  
see section 5

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

##### Acute toxicity

##### Product:

Acute oral toxicity : Assessment: Harmful if swallowed.

##### Components:

##### Valeronitrile:

Acute oral toxicity : LD50 (rat, male): 332 mg/kg  
Method: Directive 92/69/EEC, B.1  
Assessment: Harmful if swallowed.  
Remarks: literature

LD50 (rat, female): 705 mg/kg  
Method: Directive 92/69/EEC, B.1  
Assessment: Harmful if swallowed.  
Remarks: literature

Acute inhalation toxicity : Remarks: no data available

Acute dermal toxicity : Remarks: no data available

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### Skin corrosion/irritation

#### Components:

##### Valeronitrile:

Species : Rabbit  
Assessment : Based on available data, the classification criteria are not met.  
Method : Directive 92/69/EEC, B.4  
Remarks : literature

### Serious eye damage/eye irritation

#### Components:

##### Valeronitrile:

Species : Rabbit  
Assessment : Based on available data, the classification criteria are not met.  
Method : Guideline 92/69/EEC B.5  
Remarks : literature

### Germ cell mutagenicity

#### Components:

##### Valeronitrile:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay  
Method: OECD TG 471  
Result: no evidence of mutagenic effects  
Remarks: literature

### Carcinogenicity

#### Components:

##### Valeronitrile:

Carcinogenicity - Assessment : no data available

### Reproductive toxicity

#### Components:

##### Valeronitrile:

Reproductive toxicity - Assessment : no data available

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### STOT - single exposure

#### Components:

##### Valeronitrile:

Remarks : no data available

### STOT - repeated exposure

#### Components:

##### Valeronitrile:

Remarks : no data available

### Aspiration toxicity

#### Components:

##### Valeronitrile:

no data available

### Further information

#### Product:

Remarks : No additional toxicological data are available.

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## SECTION 12: Ecological information

### 12.1 Toxicity

#### Components:

##### Valeronitrile:

#### Ecotoxicology Assessment

Acute aquatic toxicity : no data available

Chronic aquatic toxicity : no data available

### 12.2 Persistence and degradability

#### Components:

##### Valeronitrile:

Biodegradability : Remarks: no data available

### 12.3 Bioaccumulative potential

#### Components:

##### Valeronitrile:



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Bioaccumulation : Remarks: No bioaccumulation is to be expected (log Pow <= 4).

### 12.4 Mobility in soil

no data available

### 12.5 Results of PBT and vPvB assessment

#### Product:

Assessment : A PBT/vPvB evaluation is not available, since a chemical safety evaluation is not required / has not been carried out.

### 12.6 Other adverse effects

#### Product:

Additional ecological information : No ecotoxicological studies with the product available. Avoid release to the environment.

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : Must be brought to an adequate waste treatment facility, in conformity with applicable waste disposal regulations.

Contaminated packaging : Packaging, that can not be reused after cleaning must be disposed or recycled in accordance with all federal, national and local regulations.

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## SECTION 14: Transport information

### 14.1 UN number

ADR : UN 1993

RID : UN 1993

IMDG : UN 1993

IATA : UN 1993

### 14.2 UN proper shipping name

ADR : FLAMMABLE LIQUID, N.O.S.  
(Valeronitrile)

RID : FLAMMABLE LIQUID, N.O.S.  
(Valeronitrile)

IMDG : FLAMMABLE LIQUID, N.O.S.  
(Valeronitrile)

IATA : Flammable liquid, n.o.s.  
(Valeronitrile)

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### 14.3 Transport hazard class(es)

**ADR** : 3  
**RID** : 3  
**IMDG** : 3  
**IATA** : 3

### 14.4 Packing group

**ADR**  
Packing group : III  
Classification Code : F1  
Hazard Identification Number : 30  
Labels : 3  
Tunnel restriction code : (D/E)

**RID**  
Packing group : III  
Classification Code : F1  
Hazard Identification Number : 30  
Labels : 3

**IMDG**  
Packing group : III  
Labels : 3  
EmS Code : F-E, S-E

**IATA (Cargo)**  
Packing instruction (cargo aircraft) : 366  
Packing instruction (LQ) : Y344  
Packing group : III  
Labels : Flammable Liquids  
Remarks : ERG-Code 3L, Maximum Net Quantity per Package 220 L

**IATA (Passenger)**  
Packing instruction (passenger aircraft) : 355  
Packing instruction (LQ) : Y344  
Packing group : III  
Labels : Flammable Liquids  
Remarks : ERG-Code 3L, Maximum Net Quantity per Package 60 L

### 14.5 Environmental hazards

**ADR**  
Environmentally hazardous : no

**RID**  
Environmentally hazardous : no

**IMDG**  
Marine pollutant : no

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### 14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

## SECTION 15: Regulatory information

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

### 15.2 Chemical safety assessment

No substance safety assessment is required for this product.

## SECTION 16: Other information

### Full text of other abbreviations

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; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Sub-

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stances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

### Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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