

Nitric acid solution

35315-1L


Version 1.5

Revision Date 11.06.2022

Corrosive to metals Category 1
H290 May be corrosive to metals.
Skin corrosion Category 1B
H314 Causes severe skin burns and eye damage.

2.2. Label elements

REGULATION (EC) No 1272/2008

| | | |
|--|---|---|
| Hazard pictograms | : |  |
| Signal word | : | Danger |
| Hazard statements | : | H290 May be corrosive to metals. H314 Causes severe skin burns and eye damage. EUH071 Corrosive to the respiratory tract. |
| Precautionary statements | : | P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. P280 Wear protective gloves/protective clothing/eye protection/face protection. P284 In case of inadequate ventilation wear respiratory protection. P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P302 + P352 IF ON SKIN: Wash with plenty of water. P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308 + P313 IF exposed or concerned: Get medical advice/ attention. |
| Hazardous components which must be listed on the label | : | nitric acid |

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2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

| Chemical name | CAS-No. Index-No. REACH Registration Number EC-No. | Classification 1272/2008 | Concentration | Remarks |
|---------------|--|--|-----------------|--|
| nitric acid | 7697-37-2 007-004-00-1 231-714-2 | Ox. Liq. 3; H272 Acute Tox. 3; H331; Inhalation Met. Corr. 1; H290 Skin Corr. 1A; H314 EUH071 | >= 5 % - < 10 % | ATE (inhalative vapour): 2,65 mg/l Ox. Liq. 3; H272: >= 65 % Skin Corr. 1A; H314: >= 20 % Skin Corr. 1B; H314:5 - < 20 % |

Remaining components of this product are non-hazardous and/or are present at concentrations below reportable limits.

Occupational Exposure Limit(s), if available, are listed in Section 8.

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice:

First aider needs to protect himself. Move out of dangerous area. Immediately take off contaminated clothing and rinse body with plenty of water.

Inhalation:

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If inhaled, remove to fresh air. If breathing is difficult, give oxygen. Use oxygen as required, provided a qualified operator is present. Call a physician immediately.

Skin contact:

Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Call a physician if irritation develops or persists.

Eye contact:

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Protect unharmed eye. Call a physician immediately.

Ingestion:

Rinse mouth with water. Do NOT induce vomiting. Call a physician immediately.

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.

See Section 11 for more detailed information on health effects and symptoms.

:

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water spray
Foam
Carbon dioxide (CO₂)
Dry powder

Extinguishing media which shall not be used for safety reasons:

High volume water jet

5.2. Special hazards arising from the substance or mixture

Some risk may be expected of corrosive and toxic decomposition products.

Fire may cause evolution of:

Nitrogen oxides (NO_x)

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit.

No unprotected exposed skin areas.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. The product itself does not burn. Collect contaminated fire extinguishing water separately.

This must not be discharged into drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Wear personal protective equipment. Unprotected persons must be kept away. Ensure adequate ventilation.

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Discharge into the environment must be avoided. Do not flush into surface water or sanitary sewer system. Prevent product from entering drains. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

6.3. Methods and materials for containment and cleaning up

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Use chemical neutralising agents
Soak up with inert absorbent material.
Pick for disposal in tightly closed containers

6.4. Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling:

Exhaust ventilation at the object is necessary. Wear suitable protective clothing and gloves.

Advice on protection against fire and explosion:

Normal measures for preventive fire protection.

Hygiene measures:

Take off all contaminated clothing immediately. Separate rooms are required for washing, showering and changing clothes. Keep working clothes separately. Remove and wash contaminated clothing before re-use. Wash hands before breaks and at the end of workday. When using do not eat or drink.

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions:

Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Avoid product residues in/on containers. Do not leave vessels/containers open

7.3. Specific end use(s)

no additional data available

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits:

| Components | Basis / Value type | Value / Form of exposure | Exceeding Factor | Remarks |
|-------------|--------------------|--------------------------------|------------------|------------|
| nitric acid | EU ELV STEL | 2,6 mg/m ³ 1 ppm | | Indicative |
| nitric acid | EH40 WEL STEL | 2,6 mg/m ³ 1 ppm | 15 minutes | |

STEL - Short term exposure limit

DNEL/ PNEC-Values

| Component | End-use/impact | Exposure duration | Value | Exposure routes | Remarks |
|-------------|-------------------------------------|-------------------|-----------------------|-----------------|---------|
| nitric acid | Workers / Long-term local effects | | 2,6 mg/m ³ | Inhalation | |
| nitric acid | Workers / Acute local effects | | 2,6 mg/m ³ | Inhalation | |
| nitric acid | Consumers / Long-term local effects | | 1,3 mg/m ³ | Inhalation | |
| nitric acid | Consumers / Acute local effects | | 1,3 mg/m ³ | Inhalation | |

No PNEC data available.

| | | |
|-------------|---|----------------|
| nitric acid | : | Not applicable |
|-------------|---|----------------|

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8.2. Exposure controls

Occupational exposure controls

The Personal Protective Equipment must be in accordance with EN standards:respirator EN 136, 140, 149; safety glasses EN 166; protective suit: EN 340, 463, 468, 943-1, 943-2; gloves EN 374, 511; safety shoes EN-ISO 20345.

Do not breathe vapours or spray mist.

Personal protective equipment

Respiratory protection:

In the case of vapour formation use a respirator with an approved filter.

Hand protection:

Glove material: Viton®

Break through time: > 60 min

Glove thickness: 0,7 mm

Vitoject® 890

Gloves must be inspected prior to use.

Replace when worn.

Remarks:Supplementary note: The specifications are based on information and tests from similar substances by analogy.

Due to varying conditions (e.g.temperature or other strains) it must be considered that the usage of a chemical protective glove in practice may be much shorter than the permeation time determined in accordance with EN 374.

Since actual conditions of practical use often deviate from standardised conditions according EN 374 the glove manufacturer recommends to use the chemical protective glove in practice not longer than 50% of the recommended permeation time.

Manufacturer's directions for use should be observed because of great diversity of types .

Suitable gloves tested according EN 374 are supplied e.g. from KCL GmbH, D-36124 Eichenzell, Vertrieb@kcl.de

Eye protection:

Safety goggles

Skin and body protection:

Wear suitable protective equipment.

Wear as appropriate:

acid-proof protective clothing

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Environmental exposure controls

Handle in accordance with local environmental regulations and good industrial practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--|---|
| Physical state | : liquid |
| Colour | : colourless |
| Odour | : odourless |
| molecular weight | : 63,01 g/mol |
| Melting point/range | : No data available |
| Boiling point/boiling range | : ca. 100 °C |
| Flammability | : Not applicable |
| Upper explosion limit | : Not applicable |
| Lower explosion limit | : Not applicable |
| Flash point | : Not applicable |
| Auto-ignition temperature | : Not applicable |
| Decomposition temperature | : No decomposition if used as directed. |
| pH | : acidic |
| Auto-ignition temperature | : not auto-flammable |
| Viscosity, kinematic | : No data available |
| Water solubility | : completely miscible |
| Partition coefficient: n-octanol/water | : No data available |

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Vapour pressure : similar to water

Density : 1,03 g/cm³
at 20 °C

Bulk density : Not applicable

Relative vapour density : No data available

9.2 Other Information

Corrosive to metals : Corrosive to metals

Evaporation rate : No data available

Viscosity, dynamic : No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under recommended storage conditions.

10.2. Chemical stability

No decomposition if used as directed.

10.3. Possibility of hazardous reactions

Gives off hydrogen by reaction with metals.
Hazardous polymerisation does not occur.

10.4. Conditions to avoid

Protect from contamination.
Keep away from reducing agents.
Protect from extreme heat and cold.

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10.5. Incompatible materials

Reactions with strong alkalis.
Reactions with various metals.

10.6. Hazardous decomposition products

nitrogen oxides

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity:

No data available

Toxicity is determined by the corrosivity of the product.

Acute dermal toxicity:

No data available

Toxicity is determined by the corrosivity of the product.

Acute inhalation toxicity:

LC50

Species: Rat

Value: 2500 ppm

Exposure time: 1 h

Method: OECD Test Guideline 403

anhydrous substance

Skin irritation:

Classification based on Annex VI of regulation 1272/2008/EC.

Eye irritation:

Classification based on Annex VI of regulation 1272/2008/EC.

Respiratory or skin sensitisation:

No data available

Repeated dose toxicity:

Note: Not classified due to data which are conclusive although insufficient for classification.

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Carcinogenicity:

Note: No data available

Germ cell mutagenicity:

Note: Not classified due to data which are conclusive although insufficient for classification.

Aspiration hazard:

No data available

11.2. Information on other hazards

Endocrine disrupting properties

No data available

Other information:

Risk of serious damage to the lungs (by inhalation).

Symptoms of poisoning may appear several hours later.

SECTION 12: Ecological information

12.1. Toxicity

Toxicity to fish:

No data available

Toxicity to aquatic plants:

No data available

Toxicity to aquatic invertebrates:

No data available

12.2. Persistence and degradability

Biodegradability:

The methods for determining biodegradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

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No data available

12.5. Results of PBT and vPvB assessment

No data available

12.6. Endocrine disrupting properties

No data available

12.7. Other adverse effects

Neutralisation will reduce ecotoxic effects.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product:

Dispose according to legal requirements.

Packaging:

Legal requirements are to be considered in regard of reuse or disposal of used packaging materials

Further information:

Provisions relating to waste:

EC Directive 2006/12/EC; 2008/98/EEC

Regulation No. 1013/2006

For personal protection see section 8.

SECTION 14: Transport information

14.1 UN number

ADR/RID:2031

IMDG:2031

IATA:2031

14.2 UN proper shipping name

ADR/RID:NITRIC ACID

IMDG:NITRIC ACID

IATA:Nitric acid

14.3 Transport hazard class(es)

ADR/RID: 8

IMDG: 8

IATA: 8

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14.4 Packaging group

ADR/RID: II

IMDG: II

IATA: II

14.5 Environmental hazards

ADR/RID: no

Marine pollutant: no

14.6 Special precautions for user

IMDG Code segregation group (SGG1) – ACIDS,

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

| Basis | Value | Remarks |
|---|-------|--|
| Directive 2012/18/EC | | Not applicable |
| Substances of very high concern (SVHC) | | This product does not contain substances of very high concern according to Regulation (EC) No Article 57 above the respective regulatory 1907/2006 (REACH), concentration limit of $\geq 0.1\%$ (w/w). |
| Regulation (EU) 2019/1148 on the marketing and use of explosives precursors | | Contains components listed in |

Poison Control Center

| Country | Phone Number |
|----------|----------------|
| Austria | +4314064343 |
| Belgium | 070 245245 |
| Bulgaria | (+)35929154233 |

| Country | Phone Number |
|---------------|-----------------------------|
| Liechtenstein | +41 442515151 |
| Lithuania | +370532362052 |
| Luxembourg | 070245245; (+352)80002-5500 |

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| | |
|--------------------|------------------------------|
| Croatia | (+3851)23-48-342 |
| Cyprus | +357 2240 5611 |
| Czech Republic | +420224919293; +420224915402 |
| Denmark | 82121212 |
| Estonia | 16662; (+372)6269390 |
| Finland | 9471977 |
| France | +33(0)145425959 |
| Greece | +30 210 779 3777 |
| Hungary | (+36-80)201-199 |
| Iceland | 5432222 |
| Ireland | +353(1)8092166 |
| Italy | 0382 24444 |
| Germany | Berlin : 030/19240 |
| | Bonn : 0228/19240 |
| | Erfurt : 0361/730730 |
| | Freiburg : 0761/19240 |
| | Göttingen : 0551/19240 |
| | Homburg : 06841/19240 |
| | Mainz : 06131/19240 |
| Munich : 089/19240 | |
| Latvia | +37167042473 |

| | |
|-----------------|---|
| Malta | +356 2395 2000 |
| Netherlands | 030-2748888 |
| Norway | 22591300 |
| Poland | +48 42 25 38 400 |
| Portugal | 800250250 |
| Romania | +40 21 318 3606 |
| Slovakia (NTIC) | +421 2 54 774 166 |
| Slovenia | +386 1 400 6051 |
| Spain | +34915620420 |
| Sweden | 112 (begär Giftinformation);+46104566786 |
| Switzerland | 145 |
| United Kingdom | (+44) 844 892 0111 |

Other inventory information

US. Toxic Substances Control Act
On TSCA Inventory

Australia. Industrial Chemicals Act (AIC), as amended
On the inventory, or in compliance with the inventory

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)
All components of this product are on the Canadian DSL

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Japan. Kashin-Hou Law List

On the inventory, or in compliance with the inventory

Korea. Existing Chemicals Inventory (KECI)

On the inventory, or in compliance with the inventory

Philippines. Inventory of Chemicals and Chemical Substances (PICCS)

On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances (IECSC)

On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand

On the inventory, or in compliance with the inventory

Taiwan Chemical Substance Inventory (TCSI)

On the inventory, or in compliance with the inventory

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Text of H-statements referred to under heading 3

nitric acid : H272 May intensify fire; oxidizer.
H331 Toxic if inhaled.
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
EUH071 Corrosive to the respiratory tract.

Further information

All directives and regulations refer to amended versions.

Vertical lines in the left hand margin indicate a relevant amendment from the previous version.

Abbreviations:

EC European Community

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CAS Chemical Abstracts Service
DNEL Derived no effect level
PNEC Predicted no effect level
vPvB Very persistent and very bioaccumulative substance
PBT Persistent, bioaccumulative und toxic substance

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. Final determination of suitability of any material is the sole responsibility of the user.

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