

Detaprofi Tanex

Version number: GHS 2.1
Replaces version of: 2023-11-06 (GHS 1)

revision: 2023-11-08

SECTION 1: Identification

1.1 Product identifier

Trade name **Detaprofi Tanex**

Other means of identification

Alternative number(s) 8421012

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

| | |
|--------------------------|--|
| Relevant identified uses | industrial uses professional uses laundry detergent |
| Uses advised against | do not use for products which come into contact with foodstuffs do not use for private purposes (household) |

1.3 Details of the supplier of the safety data sheet

BÜFA Cleaning GmbH & Co. KG
August-Hanken-Str. 30
26125 Oldenburg

Telephone: +49 441 9317 0
Website: www.buefa-cleaning.de

| | |
|--|-----------------------|
| Competent person responsible for the safety data sheet | Regulatory Affairs |
| e-mail (competent person) | sds-cleaning@buefa.de |

1.4 Emergency telephone number

Emergency information service This number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM

Opening hours

| Poison center | | | | | |
|---------------|-----------------------------------|--------|------------------|---------------|---------|
| Country | Name | Street | Postal code/city | Telephone | Telefax |
| Canada | Poison Centre Göttingen (Germany) | | | +49 551 19240 | |
| China | 化学事故应急咨询电话 | | | 0532-83889090 | |
| Germany | Giftzentrale Göttingen | | | 0551 19240 | |

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

| Annex | - | Hazard class and category | - | Hazard statement code(s) |
|-------|--|---------------------------|--------|--------------------------|
| 2.16 | substance or mixture | corrosive to metals | Cat. 1 | (Met. Corr. 1) H290 |
| 3.3 | serious eye damage/eye irritation | | Cat. 1 | (Eye Dam. 1) H318 |
| 3.7 | reproductive toxicity | | Cat. 2 | (Repr. 2) H361f |
| 3.9 | specific target organ toxicity - repeated exposure | | Cat. 2 | (STOT RE 2) H373 |

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Remarks

For full text of H-phrases: see SECTION 16.

Hazards not otherwise classifiedHealth hazards not otherwise classified (HHNOS): not assigned
Physical hazards not otherwise classified (PHNOS): not assigned**The most important adverse physicochemical, human health and environmental effects**

Delayed or immediate effects can be expected after short or long-term exposure.

2.2 Label elements**Labeling (acc. to GHS)****Signal word****danger****Pictograms**

GHS05, GHS08

**Hazard statements**

| | |
|-------|--|
| H290 | May be corrosive to metals. |
| H318 | Causes serious eye damage. |
| H361f | Suspected of damaging fertility. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |

Precautionary statements**Precautionary statements - prevention**Do not handle until all safety precautions have been read and understood.
Keep only in original packaging.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wear eye protection/face protection.**Precautionary statements - response**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER/doctor.
Absorb spillage to prevent material damage.**Precautionary statements - storage**Store locked up.
Store in a corrosion resistant container with a resistant inner liner.**Precautionary statements - disposal**

Dispose of contents/container to hazardous or special waste collection point.

Hazardous ingredients for labelling

diethanolamine, Isotridecanol, ethoxylated (>=2.5 EO)

2.3 Other hazards

There is no additional information.

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SECTION 3: Composition/information on ingredients












3.1 Substances

not relevant (mixture)

3.2 Mixtures

Description of the mixture

This product does not meet the criteria for classification in any hazard class according to GHS.

| Name of substance | Identifier | Wt% | Hazard class and category | Hazard statement | Pictograms |
|--|--|-----------|--|--|---|
| DL-malic acid | CAS No 617-48-1 EC No 210-514-9 | 10 – < 25 | 3.1I Acute Tox. 4 3.3 Eye Irrit. 2 | H332 H319 |  |
| 2-phosphonobutane-1,2,4-tricarboxylic acid | CAS No 37971-36-1 EC No 253-733-5 | 5 – < 10 | 2.16 Met. Corr. 1 3.3 Eye Irrit. 2 | H290 H319 |  |
| 2-(2-butoxyethoxy)ethanol | CAS No 112-34-5 EC No 203-961-6 | 5 – < 10 | 3.3 Eye Irrit. 2 | H319 |  |
| diethanolamine | CAS No 111-42-2 EC No 203-868-0 | 1 – < 5 | 3.10 Acute Tox. 4 3.2 Skin Irrit. 2 3.3 Eye Dam. 1 3.7 Repr. 2 3.9 STOT RE 2 | H302 H315 H318 H361f H373 |    |
| Isotridecanol, ethoxylated (>=2.5 EO) | CAS No 69011-36-5 EC No 931-138-8 | 1 – < 5 | 3.10 Acute Tox. 4 3.3 Eye Dam. 1 | H302 H318 |   |
| Hydrogen peroxide | CAS No 7722-84-1 EC No 231-765-0 | < 1 | 2.13 Ox. Liq. 2 3.10 Acute Tox. 4 3.1I Acute Tox. 4 3.2 Skin Corr. 1B 3.3 Eye Dam. 1 3.8R STOT SE 3 | H272 H302 H332 H314 H318 H335 |    |

For full text of abbreviations: see SECTION 16.

SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

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Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Fire-fighting measures**5.1 Extinguishing media****Suitable extinguishing media**

water spray, BC-powder, carbon dioxide (CO₂)

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Substance or mixture corrosive to metals.

Hazardous combustion products

nitrogen oxides (NO_x), carbon monoxide (CO), carbon dioxide (CO₂)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Coordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures****For non-emergency personnel**

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up**Advice on how to contain a spill**

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Covering of drains.

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage (sawdust, kieselgur (diatomite), sand, universal binder).

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage**7.1 Precautions for safe handling****Recommendations****Measures to prevent fire as well as aerosol and dust generation**

Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities**Managing of associated risks****• Corrosive conditions**

Store in corrosive resistant container with a resistant inner liner.

Incompatible substances or mixtures

Observe compatible storage of chemicals.

Control of the effects**Protect against external exposure, such as**

frost

Consideration of other advice**Packaging compatibilities**

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used.

7.3 Specific end use(s)

See section 16 for a general overview.

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

| Country | Name of agent | CAS No | Identifier | TWA [ppm] | TWA [mg/m ³] | STEL [ppm] | STEL [mg/m ³] | Ceiling-C [ppm] | Ceiling-C [mg/m ³] | Notation | Source |
|---------|-----------------------------------|-----------|--------------|-----------|--------------------------|------------|---------------------------|-----------------|--------------------------------|----------|-----------------|
| CA | diethanolamine | 111-42-2 | OEL (AB) | | 2 | | | | | H | OHS Code |
| CA | diethanolamine | 111-42-2 | OEL (BC) | | 2 | | | | | H | "BC Regulation" |
| CA | diethanolamine | 111-42-2 | PEV/VEA | | 1 | | | | | H, iv | Regulation OHS |
| CA | diethanolamine | 111-42-2 | OEL (ON-MoL) | | 1 | | | | | iv, H | MoL |
| CA | diethylene glycol monobutyl ether | 112-34-5 | OEL (ON-MoL) | 10 | | | | | | iv | MoL |
| CA | hydrogen peroxide | 7722-84-1 | OEL (AB) | 1 | 1.4 | | | | | | OHS Code |
| CA | hydrogen peroxide | 7722-84-1 | OEL (BC) | 1 | | | | | | | "BC Regulation" |
| CA | hydrogen peroxide | 7722-84-1 | OEL (ON-MoL) | 1 | | | | | | | MoL |
| CA | hydrogen peroxide | 7722-84-1 | PEV/VEA | 1 | | | | | | | Regulation OHS |

notation

- Ceiling-C Ceiling value is a limit value above which exposure should not occur.
- H Absorbed through the skin.
- iv Inhalable fraction and vapor.
- STEL Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified).
- TWA Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified).

Relevant DNELs/DMELs/PNECs and other threshold levels

No data available.

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

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Skin protection

- **hand protection**

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- **other protection measures**

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

| | |
|----------------|----------------|
| Physical state | liquid |
| Color | yellow |
| Odor | characteristic |

Other physical and chemical parameters

| | |
|---|---|
| pH (value) | 2.1 – 3 (in aqueous solution: 100 kg/l, 20 °C) |
| Melting point/freezing point | <-70 °C at 1 atm |
| Initial boiling point and boiling range | 100 °C |
| Flash point | >100 °C |
| Evaporation rate | not determined |
| Flammability (solid, gas) | not relevant (fluid) |
| Explosive limits | not determined |
| Vapor pressure | 2.339 kPa at 20 °C |
| Density | 1.05 kg/l at 20 °C |
| Solubility(ies) | not determined |
| Partition coefficient | |
| n-octanol/water (log KOW) | This information is not available. |
| Auto-ignition temperature | >150 °C (auto-ignition temperature (liquids and gases)) |
| Viscosity | not determined |

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| | |
|----------------------|--|
| Explosive properties | not explosive (GHS of the United Nations, annex 4) |
| Oxidizing properties | none |

9.2 Other information

| | |
|-----------------|--------|
| Solvent content | 80.2 % |
| Solid content | 19.8 % |

SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". substance or mixture corrosive to metals

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

Physical stresses which might result in a hazardous situation and have to be avoided

strong shocks

10.5 Incompatible materials

oxidizers

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification acc. to GHS

Acute toxicity

Shall not be classified as acutely toxic.

Acute toxicity of components of the mixture

| Name of substance | CAS No | Exposure route | ATE |
|-------------------|-----------|-----------------------|----------------|
| DL-malic acid | 617-48-1 | inhalation: dust/mist | >1.306 mg/l/4h |
| diethanolamine | 111-42-2 | oral | 1,100 mg/kg |
| Hydrogen peroxide | 7722-84-1 | oral | 1,026 mg/kg |
| Hydrogen peroxide | 7722-84-1 | inhalation: vapour | 11 mg/l/4h |

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Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitization

Shall not be classified as a respiratory or skin sensitizer.

Summary of evaluation of the CMR properties

Suspected of damaging fertility.
Shall not be classified as carcinogenic.
Shall not be classified as germ cell mutagenic.

Carcinogenicity

- National Toxicology Program (United States): none of the ingredients are listed
- IARC Monographs

| Name of substance | Name acc. to inventory | CAS No | Classification | Number |
|-------------------|------------------------|-----------|----------------|--------|
| diethanolamine | diethanolamine | 111-42-2 | 2B | |
| Hydrogen peroxide | hydrogen peroxide | 7722-84-1 | 3 | |

Legend

- 2B Possibly carcinogenic to humans.
3 Not classifiable as to carcinogenicity in humans.

- OSHA Carcinogens (United States) none of the ingredients are listed

Specific target organ toxicity (STOT)

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute)

Aquatic toxicity (acute) of components of the mixture

| Name of substance | CAS No | Endpoint | Value | Species | Exposure time |
|---|------------|----------|-------------|---------|---------------|
| DL-malic acid | 617-48-1 | LC50 | >100 mg/l | fish | 96 h |
| DL-malic acid | 617-48-1 | EC50 | >100 mg/l | algae | 72 h |
| DL-malic acid | 617-48-1 | ErC50 | >100 mg/l | algae | 72 h |
| 2-phosphonobutane-1,2,4-tri-carboxylic acid | 37971-36-1 | LC50 | >1,042 mg/l | fish | 96 h |

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| Name of substance | CAS No | Endpoint | Value | Species | Exposure time |
|--|------------|----------|-------------|-----------------------|---------------|
| 2-phosphonobutane-1,2,4-tricarboxylic acid | 37971-36-1 | ErC50 | >1,081 mg/l | algae | 72 h |
| 2-phosphonobutane-1,2,4-tricarboxylic acid | 37971-36-1 | EC50 | 140 mg/l | algae | 72 h |
| 2-(2-butoxyethoxy)ethanol | 112-34-5 | LC50 | 1,300 mg/l | fish | 96 h |
| 2-(2-butoxyethoxy)ethanol | 112-34-5 | EC50 | >100 mg/l | aquatic invertebrates | 48 h |
| 2-(2-butoxyethoxy)ethanol | 112-34-5 | ErC50 | >100 mg/l | algae | 96 h |
| diethanolamine | 111-42-2 | LC50 | 460 mg/l | fish | 96 h |
| diethanolamine | 111-42-2 | EC50 | 30.1 mg/l | aquatic invertebrates | 48 h |
| Hydrogen peroxide | 7722-84-1 | LC50 | 16.4 mg/l | fish | 96 h |
| Hydrogen peroxide | 7722-84-1 | ErC50 | 1.38 mg/l | algae | 72 h |

Aquatic toxicity (chronic)

Aquatic toxicity (chronic) of components of the mixture

| Name of substance | CAS No | Endpoint | Value | Species | Exposure time |
|--|------------|----------|-------------|-----------------------|---------------|
| DL-malic acid | 617-48-1 | EC50 | >300 mg/l | microorganisms | 3 h |
| 2-phosphonobutane-1,2,4-tricarboxylic acid | 37971-36-1 | LC50 | >1,042 mg/l | fish | 14 d |
| 2-phosphonobutane-1,2,4-tricarboxylic acid | 37971-36-1 | EC50 | >1,071 mg/l | aquatic invertebrates | 21 d |
| Hydrogen peroxide | 7722-84-1 | EC50 | 466 mg/l | microorganisms | 30 min |

12.2 Persistence and degradability

Degradability of components of the mixture

| Name of substance | CAS No | Process | Degradation rate | Time |
|---------------------------------------|------------|---------------------------|------------------|------|
| DL-malic acid | 617-48-1 | carbon dioxide generation | 67.5 % | 28 d |
| 2-(2-butoxyethoxy)ethanol | 112-34-5 | oxygen depletion | 85 % | 28 d |
| diethanolamine | 111-42-2 | oxygen depletion | 5 % | 5 d |
| Isotridecanol, ethoxylated (>=2.5 EO) | 69011-36-5 | DOC removal | 82 % | 28 d |

12.3 Bioaccumulative potential

Data are not available.

Bioaccumulative potential of components of the mixture

| Name of substance | CAS No | BCF | Log KOW | BOD5/COD |
|--|------------|-------|-------------------------------|----------|
| DL-malic acid | 617-48-1 | | -1.27 (pH value: ~2.3, 24 °C) | |
| 2-phosphonobutane-1,2,4-tricarboxylic acid | 37971-36-1 | | -1.66 | |
| 2-(2-butoxyethoxy)ethanol | 112-34-5 | | 1 (pH value: 7, 20 °C) | |
| diethanolamine | 111-42-2 | 2.69 | -2.46 (25 °C) | |
| Isotridecanol, ethoxylated (>=2.5 EO) | 69011-36-5 | 232.5 | | |

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12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packages

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

| | | |
|-------------|--|--|
| 14.1 | UN number | 1760 |
| 14.2 | UN proper shipping name | Corrosive liquid, n.o.s. |
| | Technical name (hazardous constituents) | 2-phosphonobutane-1,2,4-tricarboxylic acid, Hydrogen peroxide |
| 14.3 | Transport hazard class(es) | |
| | Class | 8 (corrosive substances) |
| 14.4 | Packing group | III (substance presenting low danger) |
| 14.5 | Environmental hazards | none (non-environmentally hazardous acc. to the dangerous goods regulations) |
| 14.6 | Special precautions for user | |
| | There is no additional information. | |
| 14.7 | Transport in bulk according to Annex II of MARPOL and the IBC Code | |
| | The cargo is not intended to be carried in bulk. | |

Information for each of the UN Model Regulations

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• **International Maritime Dangerous Goods Code (IMDG)**

| | |
|----------------------|---|
| UN number | 1760 |
| Proper shipping name | 1760, CORROSIVE LIQUID, N.O.S., (2-phosphonobutane-1,2,4-tricarboxylic acid, Hydrogen peroxide) |
| Class | 8 |
| Packing group | III |
| Danger label(s) | 8 |



| | |
|--------------------------|----------|
| Special provisions (SP) | 223, 274 |
| Excepted quantities (EQ) | E1 |
| Limited quantities (LQ) | 5 L |
| EmS | F-A, S-B |
| Stowage category | A |

• **International Civil Aviation Organization (ICAO-IATA/DGR)**

| | |
|----------------------|---|
| UN number | 1760 |
| Proper shipping name | 1760, Corrosive liquid, n.o.s., (2-phosphonobutane-1,2,4-tricarboxylic acid, Hydrogen peroxide) |
| Class | 8 |
| Packing group | III |
| Danger label(s) | 8 |



| | |
|--------------------------|-----|
| Special provisions (SP) | A3 |
| Excepted quantities (EQ) | E1 |
| Limited quantities (LQ) | 1 L |

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SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

National regulations (United States)

Superfund Amendment and Reauthorization Act (SARA TITLE III)

The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

| Name of substance | CAS No | Notes | Reportable quantity (pounds) | Threshold planning quantity (pounds) |
|-------------------|-----------|-------|------------------------------|--------------------------------------|
| Hydrogen peroxide | 7722-84-1 | f | 1,000 | 1000 |

legend

f Chemical on the original list that does not meet toxicity criteria but because of its acute lethality, high production volume and known risk is considered chemical of concern ("Other chemicals"). (November 17, 1986, and February 15, 1990.).

Specific Toxic Chemical Listings (EPCRA Section 313)

| Name of substance | CAS No | Remarks | Effective date |
|-------------------|----------|---------|----------------|
| diethanolamine | 111-42-2 | | 1987-01-01 |

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

| Name of substance | CAS No | Remarks | Statutory code | Final RQ pounds (Kg) |
|-------------------|----------|---------|----------------|----------------------|
| diethanolamine | 111-42-2 | | 3 | 100 (45,4) |

legend

3 "3" indicates that the source is section 112 of the Clean Air Act.

Proposition 65 List of chemicals

| Name of substance | CAS No | Remarks | Type of the toxicity |
|-------------------|----------|---------|----------------------|
| diethanolamine | 111-42-2 | | cancer |

Clean Air Act

none of the ingredients are listed

Right to Know Hazardous Substance List

Cleaning Product Right to Know Act Substance List (CA-RTK)

| Name of substance | CAS No | Functionality | Authoritative Lists |
|---------------------------|----------|---------------|---|
| 2-(2-butoxyethoxy)ethanol | | | CA TACs |
| diethanolamine | 111-42-2 | | CA TACs IARC Carcinogens - 2B OEHHA RELs Prop 65 |

Toxic or Hazardous Substance List (MA-TURA)

| Name of substance | CAS No | DEP CODE | PBT / HHS / LHS | PBT / HHS Threshold | De Minimis Concentration Threshold |
|---------------------------|----------|----------|-----------------|---------------------|------------------------------------|
| diethanolamine | 111-42-2 | | | | 1.0 % |
| 2-(2-butoxyethoxy)ethanol | | 1022 | | | 1.0 % |

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Hazardous Substances List (MN-ERTK)

| Name of substance | CAS No | References | Remarks |
|-------------------|----------|------------|---------|
| diethanolamine | 111-42-2 | A | |

legend

A American Conference of Governmental Industrial Hygienists (ACGIH), "Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices for 1992-93", available from ACGIH.

Hazardous Substance List (NJ-RTK)

| Name of substance | CAS No | Remarks | Classifications |
|---------------------------|-----------|---------|-----------------|
| diethanolamine | 111-42-2 | | CO |
| 2-(2-butoxyethoxy)ethanol | | | |
| Hydrogen peroxide | 7722-84-1 | | CO MU R3 |

legend

CO Corrosive.
MU Mutagenic.
R3 Reactive - Third Degree.

Hazardous Substance List (Chapter 323) (PA-RTK)

| Name of substance | CAS No | Classification |
|---------------------------|-----------|----------------|
| diethanolamine | 111-42-2 | E |
| 2-(2-butoxyethoxy)ethanol | | E |
| Hydrogen peroxide | 7722-84-1 | E |

legend

E Environmental hazard.

Hazardous Substance List (RI-RTK)

| Name of substance | CAS No | References |
|-------------------|-----------|------------|
| diethanolamine | 111-42-2 | T, F |
| Hydrogen peroxide | 7722-84-1 | T, F |

legend

F Flammability (NFPA®).
T Toxicity (ACGIH®).

Drug precursors, Controlled Substances Act (21 U.S.C. § 802) none of the ingredients are listed

Industry or sector specific available guidance(s)

NPCA-HMIS® III

Hazardous Materials Identification System (American Coatings Association)

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| Category | Rating | Description |
|----------------------------|--------|---|
| Chronic | * | Chronic (long-term) health effects may result from repeated overexposure. |
| Health | 3 | Major injury likely unless prompt action is taken and medical treatment is given. |
| Flammability | 0 | Material that will not burn under typical fire conditions. |
| Physical hazard | 0 | Material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive. |
| Personal protection | - | |

NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States)

| Category | Degree of hazard | Description |
|-----------------------|------------------|---|
| Flammability | 0 | Material that will not burn under typical fire conditions. |
| Health | 3 | Material that, under emergency conditions, can cause serious or permanent injury. |
| Instability | 0 | Material that is normally stable, even under fire conditions. |
| Special hazard | | |

Relevant European Union (EU) safety, health and environmental provisions

Classification according to GHS (1272/2008/EC, CLP)

Hazard class

substance or mixture corrosive to metals
serious eye damage/eye irritation

Category Hazard class and category

1 (Met. Corr. 1)
1 (Eye Dam. 1)

National inventories

| Country | Inventory | Status |
|---------|------------|---|
| EU | REACH Reg. | all ingredients are listed |
| US | TSCA | all ingredients are listed or exempt from listing |
| CA | DSL/NDSL | all ingredients are listed or exempt from listing |

legend

DSL/NDSL Domestic Substances List (DSL)/Non-domestic Substances List (NDSL).
REACH Reg. REACH registered substances.
TSCA Toxic Substance Control Act.

SECTION 16: Other information

16.1 Indication of changes (revised safety data sheet)

| Section | Former entry (text/value) | Actual entry (text/value) | Safety-relevant |
|---------|--|--|-----------------|
| 1.2 | Relevant identified uses: general use | Relevant identified uses: industrial uses professional uses laundry detergent | yes |

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| Section | Former entry (text/value) | Actual entry (text/value) | Safety-relevant |
|---------|--|--|-----------------|
| 1.2 | Uses advised against: do not use for squirting or spraying do not use for products which come into direct contact with the skin do not use for products which come into contact with foodstuffs do not use for private purposes (household) | Uses advised against: do not use for products which come into contact with foodstuffs do not use for private purposes (household) | yes |
| 2.1 | | Classification acc. to GHS: change in the listing (table) | yes |
| 2.1 | The most important adverse physicochemical, human health and environmental effects: Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis. Delayed or immediate effects can be expected after short or long-term exposure. | The most important adverse physicochemical, human health and environmental effects: Delayed or immediate effects can be expected after short or long-term exposure. | yes |
| 2.2 | | Hazard statements: change in the listing (table) | yes |
| 2.2 | | Precautionary statements - prevention: change in the listing (table) | yes |
| 2.2 | | Precautionary statements - response: change in the listing (table) | yes |
| 2.2 | | Precautionary statements - storage: change in the listing (table) | yes |
| 4.1 | Following inhalation: If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air. | Following inhalation: If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air. | yes |
| 5.2 | Special hazards arising from the substance or mixture | Special hazards arising from the substance or mixture: Substance or mixture corrosive to metals. | yes |
| 7.1 | Handling of incompatible substances or mixtures | | yes |
| 7.1 | Keep away from: caustic solutions | | yes |
| 7.2 | | • Corrosive conditions: Store in corrosive resistant container with a resistant inner liner. | yes |
| 7.2 | | Consideration of other advice | yes |
| 7.2 | | Packaging compatibilities: Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used. | yes |
| 9.1 | pH (value): 2 – 3 (in aqueous solution: 100 kg/l, 20 °C) | pH (value): 2.1 – 3 (in aqueous solution: 100 kg/l, 20 °C) | yes |
| 10.1 | Reactivity: Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". | Reactivity: Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". substance or mixture corrosive to metals | yes |
| 11.1 | Skin corrosion/irritation: Causes severe skin burns and eye damage. | Skin corrosion/irritation: Shall not be classified as corrosive/irritant to skin. | yes |

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| Section | Former entry (text/value) | Actual entry (text/value) | Safety-relevant |
|---------|--|--|-----------------|
| 14.1 | UN number: 3265 not subject to transport regulations | UN number: 1760 | yes |
| 14.2 | UN proper shipping name: Corrosive liquid, acidic, organic, n.o.s. not relevant | UN proper shipping name: Corrosive liquid, n.o.s. | yes |
| 14.7 | • International Maritime Dangerous Goods Code (IMDG): not subject to IMDG | • International Maritime Dangerous Goods Code (IMDG) | yes |
| 14.7 | | UN number: 1760 | yes |
| 14.7 | | Proper shipping name: 1760, CORROSIVE LIQUID, N.O.S., (2-phosphonobutane-1,2,4-tricarboxylic acid, Hydrogen peroxide) | yes |
| 14.7 | | Class: 8 | yes |
| 14.7 | | Packing group: III | yes |
| 14.7 | | Danger label(s): 8 | yes |
| 14.7 | | Danger label(s): change in the listing (table) | yes |
| 14.7 | | Special provisions (SP): 223, 274 | yes |
| 14.7 | | Excepted quantities (EQ): E1 | yes |
| 14.7 | | Limited quantities (LQ): 5 L | yes |
| 14.7 | | EmS: F-A, S-B | yes |
| 14.7 | | Stowage category: A | yes |
| 14.7 | • International Civil Aviation Organization (ICAO-IATA/DGR): not subject to ICAO-IATA | • International Civil Aviation Organization (ICAO-IATA/DGR) | yes |
| 14.7 | | UN number: 1760 | yes |
| 14.7 | | Proper shipping name: 1760, Corrosive liquid, n.o.s., (2-phosphonobutane-1,2,4-tricarboxylic acid, Hydrogen peroxide) | yes |
| 14.7 | | Class: 8 | yes |
| 14.7 | | Packing group: III | yes |
| 14.7 | | Danger label(s): 8 | yes |
| 14.7 | | Danger label(s): change in the listing (table) | yes |

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| Section | Former entry (text/value) | Actual entry (text/value) | Safety-rel- evant |
|---------|---------------------------|--|----------------------|
| 14.7 | | Special provisions (SP): A3 | yes |
| 14.7 | | Excepted quantities (EQ): E1 | yes |
| 14.7 | | Limited quantities (LQ): 1 L | yes |
| 15.1 | | Classification according to GHS (1272/2008/EC, CLP): change in the listing (table) | yes |
| 16 | | Abbreviations and acronyms: change in the listing (table) | yes |

Abbreviations and acronyms

| Abbr. | Descriptions of used abbreviations |
|-----------------|---|
| "BC Regulation" | OHS Regulation: Section 5.48 (British Columbia) |
| ACGIH® | American Conference of Governmental Industrial Hygienists |
| Acute Tox. | Acute toxicity |
| ATE | Acute Toxicity Estimate |
| BCF | Bioconcentration factor |
| BOD | Biochemical Oxygen Demand |
| CAS | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances) |
| Ceiling-C | Ceiling value |
| CLP | Regulation (EC) No 1272/2008 on classification, labeling and packaging of substances and mixtures |
| CMR | Carcinogenic, Mutagenic or toxic for Reproduction |
| COD | Chemical oxygen demand |
| DEP CODE | Department of Environmental Protection Code |
| DGR | Dangerous Goods Regulations (see IATA/DGR) |
| DMEL | Derived Minimal Effect Level |
| DNEL | Derived No-Effect Level |
| EC50 | Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval |
| EC No | The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union) |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINCS | European List of Notified Chemical Substances |
| EmS | Emergency Schedule |
| ErC50 | ≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control |
| Eye Dam. | Seriously damaging to the eye |
| Eye Irrit. | Irritant to the eye |

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| Abbr. | Descriptions of used abbreviations |
|------------------|---|
| GHS | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations |
| HHS | Higher hazard substance |
| IARC | International Agency for Research on Cancer |
| IARC Mono-graphs | IARC Monographs on the Evaluation of Carcinogenic Risks to Humans |
| IATA | International Air Transport Association |
| IATA/DGR | Dangerous Goods Regulations (DGR) for the air transport (IATA) |
| ICAO | International Civil Aviation Organization |
| IMDG | International Maritime Dangerous Goods Code |
| LC50 | Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval |
| LHS | Lower hazard substance |
| log KOW | n-Octanol/water |
| MARPOL | International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant") |
| Met. Corr. | Substance or mixture corrosive to metals |
| MoL | Ministry of Labor: Current Occupational Exposure Limits for Ontario Workplaces Required under Regulation 833 |
| NFPA® | National Fire Protection Association (United States) |
| NFPA® 704 | National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States) |
| NLP | No-Longer Polymer |
| NPCA-HMIS® III | National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition |
| OHS Code | Occupational Health and Safety Code: Occupational exposure limits for chemical substances (Alberta) |
| Ox. Liq. | Oxidizing liquid |
| PBT | Persistent, Bioaccumulative and Toxic |
| PNEC | Predicted No-Effect Concentration |
| ppm | Parts per million |
| Regulation OHS | Regulation respecting occupational health and safety: Permissible exposure values for airborne contaminants (Quebec) |
| Repr. | Reproductive toxicity |
| Skin Corr. | Corrosive to skin |
| Skin Irrit. | Irritant to skin |
| STEL | Short-term exposure limit |
| STOT RE | Specific target organ toxicity - repeated exposure |
| STOT SE | Specific target organ toxicity - single exposure |
| TWA | Time-weighted average |
| vPvB | Very Persistent and very Bioaccumulative |

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Key literature references and sources for data

- OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200
- 49 CFR § 172.101 Hazardous Materials Table (DOT)

Classification procedure

Physical and chemical properties: The classification is based on tested mixture.

Health hazards/Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

| Code | Text |
|-------|--|
| H272 | May intensify fire; oxidizer. |
| H290 | May be corrosive to metals. |
| H302 | Harmful if swallowed. |
| H314 | Causes severe skin burns and eye damage. |
| H315 | Causes skin irritation. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H332 | Harmful if inhaled. |
| H335 | May cause respiratory irritation. |
| H361f | Suspected of damaging fertility. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.