

# Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830



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

### 1.1. Product identifier

Code: 18/090  
Product name: DBT FE PLUS

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

Intended use: Metal pickling  
Uses advised against: Different uses than those intended.

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

Name: CHEMTEC S.R.L.  
Full address: Via Alberto da Giussano 36/O  
District and Country: 20011 CORBETTA (MI)  
ITALY

tel. +39 02 92867461

fax +39 02 87366254

e-mail address of the competent person

responsible for the Safety Data Sheet: laboratorio@chemtec.it  
Product distribution by: CHEMTEC S.R.L.

### 1.4. Emergency telephone number

For urgent inquiries refer to: +39 02 92867461 during office hour 8.30-12.30 - 13.30-17.30  
Local emergency services

## SECTION 2. Hazards identification

### 2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830. Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

|                                                                    |      |                                                    |
|--------------------------------------------------------------------|------|----------------------------------------------------|
| Substance or mixture corrosive to metals, category 1               | H290 | May be corrosive to metals.                        |
| Skin corrosion, category 1B                                        | H314 | Causes severe skin burns and eye damage.           |
| Serious eye damage, category 1                                     | H318 | Causes serious eye damage.                         |
| Hazardous to the aquatic environment, chronic toxicity, category 3 | H412 | Harmful to aquatic life with long lasting effects. |

### 2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: DANGER

Hazard statements:

H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.

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|                           |                                                                                                                                  |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <b>H412</b>               | Harmful to aquatic life with long lasting effects.                                                                               |
| Precautionary statements: |                                                                                                                                  |
| <b>P260</b>               | Do not breathe dust / fume / gas / mist / vapours / spray.                                                                       |
| <b>P305+P351+P338</b>     | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| <b>P303+P361+P353</b>     | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].                         |
| <b>P280</b>               | Wear protective gloves/ protective clothing / eye protection / face protection.                                                  |
| <b>P310</b>               | Immediately call a POISON CENTER / doctor if you feel unwell.                                                                    |
| <b>P264</b>               | Wash the skin thoroughly after handling.                                                                                         |

**Contains:** PHOSPHORIC ACID;  
QUATERNARY AMMONIUM COMPOUNDS, BENZYL-C12-16-ALKYLDIMETHYL, CHLORIDES.

**2.3. Other hazards**

On the basis of available data, the product does not contain any PBT or vPvB in percentage  $\geq$  than 0,1%.

**SECTION 3. Composition/information on ingredients****3.2. Mixtures**

Contains:

| Identification                                                               | x = Conc. %           | Classification 1272/2008 (CLP)                                                                                                                |
|------------------------------------------------------------------------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| <b>PHOSPHORIC ACID 75%</b>                                                   |                       |                                                                                                                                               |
| CAS 7664-38-2                                                                | $35 \leq x \leq 40$   | Met. Corr. 1 H290, Acute Tox. 4 H302, Skin Corr. 1B H314, Eye Dam. 1 H318, Classification note according to Annex VI to the CLP Regulation: B |
| EC 231-633-2                                                                 |                       |                                                                                                                                               |
| INDEX 015-011-00-6                                                           |                       |                                                                                                                                               |
| Reg. no. 01-2119485924-24                                                    |                       |                                                                                                                                               |
| <b>2-BUTOXYETHANOL</b>                                                       |                       |                                                                                                                                               |
| CAS 111-76-2                                                                 | $3 \leq x \leq 5$     | Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Eye Irrit. 2 H319, Skin Irrit. 2 H315                                                |
| EC 203-905-0                                                                 |                       |                                                                                                                                               |
| INDEX 603-014-00-0                                                           |                       |                                                                                                                                               |
| Reg. no. 01-2119475108-36                                                    |                       |                                                                                                                                               |
| <b>2-PROPYN-1-OL, COMPD. WITH METHYLOXIRANE</b>                              |                       |                                                                                                                                               |
| CAS 38172-91-7                                                               | $1 \leq x \leq 2$     | Acute Tox. 4 H302, Eye Dam. 1 H318                                                                                                            |
| EC -                                                                         |                       |                                                                                                                                               |
| INDEX -                                                                      |                       |                                                                                                                                               |
| Reg. no. 01-2119976291-33                                                    |                       |                                                                                                                                               |
| <b>QUATERNARY AMMONIUM COMPOUNDS, BENZYL-C12-16-ALKYLDIMETHYL, CHLORIDES</b> |                       |                                                                                                                                               |
| CAS 68424-85-1                                                               | $0,3 \leq x \leq 0,5$ | Acute Tox. 4 H302, Skin Corr. 1B H314, Eye Dam. 1 H318, Aquatic Acute 1 H400 M=10, Aquatic Chronic 1 H410 M=1                                 |
| EC 270-325-2                                                                 |                       |                                                                                                                                               |
| INDEX -                                                                      |                       |                                                                                                                                               |
| Reg. no. biocide                                                             |                       |                                                                                                                                               |

The full wording of hazard (H) phrases is given in section 16 of the sheet.

**SECTION 4. First aid measures****4.1. Description of first aid measures**

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 30-60 minutes, opening the eyelids fully. Get medical advice/attention.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention.

INGESTION: Have the subject drink as much water as possible. Get medical advice/attention. Do not induce vomiting unless explicitly authorised by a doctor.

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INHALATION: Get medical advice/attention immediately. Remove victim to fresh air, away from the accident scene. If the subject stops breathing, administer artificial respiration. Take suitable precautions for rescue workers.

**4.2. Most important symptoms and effects, both acute and delayed**

Symptoms / effects in case of skin contact: burns.

Symptoms / effects in case of eye contact: serious damage to eyes.

Symptoms / effects if swallowed: burns.

**4.3. Indication of any immediate medical attention and special treatment needed**

Information for the doctor: symptomatically treatment.

**SECTION 5. Firefighting measures****5.1. Extinguishing media****SUITABLE EXTINGUISHING EQUIPMENT**

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

**UNSUITABLE EXTINGUISHING EQUIPMENT**

None in particular.

**5.2. Special hazards arising from the substance or mixture****HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE**

Do not breathe combustion products.

**5.3. Advice for firefighters****GENERAL INFORMATION**

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

**SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS**

Normal firefighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

**SECTION 6. Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

**6.2. Environmental precautions**

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

**6.3. Methods and material for containment and cleaning up**

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

**6.4. Reference to other sections**

Any information on personal protection and disposal is given in sections 8 and 13.

**SECTION 7. Handling and storage****7.1. Precautions for safe handling**

Ensure that there is an adequate earthing system for the equipment and personnel. Avoid contact with eyes and skin. Do not breathe powders, vapours or mists. Do not eat, drink or smoke during use. Wash hands after use. Avoid leakage of the product into the environment.

**7.2. Conditions for safe storage, including any incompatibilities**

Store only in the original container. Store in a ventilated and dry place, far away from sources of ignition. Keep containers well sealed. Keep the product in clearly labelled containers. Avoid overheating. Avoid violent blows. Keep containers away from any incompatible materials, see section 10 for details.

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Storage class TRGS 510 (Germany): 10

## 7.3. Specific end use(s)

Metal pickling.

## SECTION 8. Exposure controls/personal protection

## 8.1. Control parameters

Regulatory References:

|     |                  |                                                                                                                                                                                                                                                                                  |
|-----|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AUS | Österreich       | Gesamte Rechtsvorschrift für Grenzwertverordnung 2018, Fassung vom 17.10.2018                                                                                                                                                                                                    |
| BEL | Belgique         | AR du 11/3/2002. La liste est mise à jour pour 2017                                                                                                                                                                                                                              |
| BGR | България         | МИНИСТЕРСТВО НА ТРУДА И СОЦИАЛНАТА ПОЛИТИКА МИНИСТЕРСТВО НА ЗДРАВЕОПАЗВАНЕТО НАРЕДБА No 13 от 30 декември 2003 г (4 Септември 2018г)                                                                                                                                             |
| CHE | Suisse / Schweiz | Valeurs limites d'exposition aux postes de travail en Suisse: valeurs VME/VLE. Version Juin 2019 (SUVA)                                                                                                                                                                          |
| CYP | Κύπρος           | Κ.Δ.Π. 268/2001; Κ.Δ.Π. 55/2004; Κ.Δ.Π. 295/2007; Κ.Δ.Π. 70/2012; Κ.Δ.Π. 16/2019                                                                                                                                                                                                 |
| CZE | Česká Republika  | Nařízení vlády č. 246/2018 Sb. Nařízení vlády, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů                                                                                                  |
| DEU | Deutschland      | TRGS 900 - Seite 1 von 69 (Fassung 29.03.2019)- Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte                                                                                                                                                                               |
| DNK | Danmark          | Bekendtgørelse om grænseværdier for stoffer og materialer - BEK nr 1458 af 13/12/2019                                                                                                                                                                                            |
| ESP | España           | LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2019 (INSST)                                                                                                                                                                                                   |
| EST | Eesti            | Ohtlike kemikaalide ja neid sisaldavate materjalide kasutamise töötervishoiu ja tööohutuse nõuded ning töökeskkonna keemiliste ohutegurite piirnormid [RT I, 17.10.2019, 1 - jõust. 17.01.2020]                                                                                  |
| FRA | France           | Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS                                                                                                                                                                                       |
| FIN | Suomi            | HTP-VÄRDEN 2018. Koncentrationer som befunnits skadliga. SOCIAL- OCH HÄLSOVÄRDSMINISTERIETS PUBLIKATIONER 10/2018                                                                                                                                                                |
| GRC | Ελλάδα           | ΕΦΗΜΕΡΙΔΑ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ - ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 152 - 21 Αυγούστου 2018                                                                                                                                                                                                      |
| HUN | Magyarország     | A pénzügyminiszter 7/2018. (VIII. 29.) PM rendelete a munkahelyek kémiai biztonságáról szóló 25/2000. (IX. 30.) EüM–SZCSM együ. Ttes rendelet módosításáról.                                                                                                                     |
| HRV | Hrvatska         | Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 91/18)                                                                                                                      |
| ITA | Italia           | Decreto Legislativo 9 Aprile 2008, n.81                                                                                                                                                                                                                                          |
| IRL | Éire             | 2018 Code of Practice for the Chemical Agents Regulations Safety Authority                                                                                                                                                                                                       |
| LTU | Lietuva          | LIETUVOS HIGIENOS NORMA HN 23:2011 „CHEMINIŲ MEDŽIAGŲ PROFESINIO POVEIKIO RIBINIAI DYDŽIAI. MATAVIMO IR POVEIKIO VERTINIMO BENDRIEJI REIKALAVIMAI. Nr. V-695/A1-272, 2018-06-12, paskelbta TAR 2018-06-15, i. k. 2018-09988                                                      |
| LVA | Latvija          | Kīmisko vielu aroda ekspozīcijas robežvērtības (AER) darba vides gaisā 2018                                                                                                                                                                                                      |
| NOR | Norge            | Fastsatt av Arbeids- og sosialdepartementet 21. august 2018 med hjemmel i lov 17. juni 2005 nr. 62 om arbeidsmiljø, arbeidstid, stillingsvern mv. (arbeidsmiljøloven) § 1-3, § 1-4 og § 4-5                                                                                      |
| NLD | Nederland        | Regeling van de Staatssecretaris van Sociale Zaken en Werkgelegenheid van 13 juli 2018, 2018-0000118517 tot wijziging van de Arbeidsomstandighedenregeling in verband met de implementatie van Richtlijn 2017/164 in Bijlage XIII                                                |
| POL | Polska           | ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 12 czerwca 2018 r                                                                                                                                                                                            |
| ROU | România          | HOTĂRÂRE nr. 584 din 2 august 2018 pentru modificarea Hotărârii Guvernului nr. 1.218/2006 privind stabilirea cerințelor minime de securitate și sănătate în muncă pentru asigurarea protecției lucrătorilor împotriva riscurilor legate de prezența agenților chimici            |
| SWE | Sverige          | Hygieniska gränsvärden, AFS 2018:1                                                                                                                                                                                                                                               |
| SVK | Slovensko        | Nariadenie vlády č. 33/2018 Z. z. Nariadenie vlády Slovenskej republiky, ktorým sa mení a dopĺňa nariadenie vlády Slovenskej republiky č. 355/2006 Z. z. o ochrane zamestnancov pred rizikami súvisiacimi s expozíciou chemickým faktorom pri práci v znení neskorších predpisov |
| SVN | Slovenija        | Uradni list Republike Slovenije 20.12.2019 - Uradnem listu RS št. 78/19 -PRAVILNIK o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu                                                                                                           |
| TUR | Türkiye          | 23.06.2017 tarihli, 30105 sayılı, KKDİK Ek II Yönetmelik hükümlerine uygun düzenlenmiştir                                                                                                                                                                                        |
| GBR | United Kingdom   | EH40/2005 Workplace exposure limits (Third edition, published 2018)                                                                                                                                                                                                              |
| EU  | OEL EU           | Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.                |
|     | TLV-ACGIH        | ACGIH 2019                                                                                                                                                                                                                                                                       |

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## PHOSPHORIC ACID

| Threshold Limit Value |         |        |     |            |     |                        |
|-----------------------|---------|--------|-----|------------|-----|------------------------|
| Type                  | Country | TWA/8h |     | STEL/15min |     | Remarks / Observations |
|                       |         | mg/m3  | ppm | mg/m3      | ppm |                        |
| MAK                   | AUS     | 1      |     | 2          |     |                        |
| TRK                   | AUS     | 1      |     | 2          |     |                        |
| VLEP                  | BEL     | 1      |     | 2          |     |                        |
| TLV                   | BGR     | 1      |     | 2          |     |                        |
| MAK                   | CHE     | 1      |     | 2          |     |                        |
| MAK                   | CHE     | 2      |     | 4          |     | INHAL FRACTION         |
| AGW                   | DEU     | 2      |     | 4          |     | INHAL AEROSOL          |
| MAK                   | DEU     | 2      |     | 4          |     | INHAL FRACTION         |
| TLV                   | DNK     | 1      |     | 2          |     |                        |
| VLA                   | ESP     | 1      |     | 2          |     |                        |
| VLEP                  | FRA     | 1      | 0,2 | 2          | 0,5 |                        |
| HTP                   | FIN     | 1      |     | 2          |     |                        |
| AK                    | HUN     | 1      |     | 2          |     |                        |
| GVI/KGVI              | HRV     | 1      |     | 2          |     |                        |
| VLEP                  | ITA     | 1      |     | 2          |     |                        |
| OELV                  | IRL     | 1      |     | 2          |     |                        |
| TGG                   | NLD     | 1      |     | 2          |     |                        |
| NDS/NDSch             | POL     | 1      |     | 2          |     |                        |
| TLV                   | ROU     | 1      |     | 2          |     |                        |
| NGV/KGV               | SWE     | 1      |     | 2          |     |                        |
| ESD                   | TUR     | 1      |     | 2          |     |                        |
| WEL                   | GBR     | 1      |     | 2          |     |                        |
| OEL                   | EU      | 1      |     | 2          |     |                        |
| TLV-ACGIH             |         | 1      |     | 3          |     |                        |

## 2-BUTOXYETHANOL

| Threshold Limit Value |         |        |     |            |     |                        |
|-----------------------|---------|--------|-----|------------|-----|------------------------|
| Type                  | Country | TWA/8h |     | STEL/15min |     | Remarks / Observations |
|                       |         | mg/m3  | ppm | mg/m3      | ppm |                        |
| MAK                   | AUS     | 98     | 20  | 200        | 40  | SKIN                   |
| TRK                   | AUS     | 98     | 20  | 200        | 40  |                        |
| VLEP                  | BEL     | 98     | 20  | 246        | 50  | SKIN                   |
| TLV                   | BGR     | 98     |     | 246        |     | SKIN                   |
| MAK                   | CHE     | 49     | 10  | 98         | 20  | SKIN                   |
| TLV                   | CYP     | 98     | 20  | 246        | 50  | SKIN                   |
| TLV                   | CZE     | 100    |     | 200        |     | SKIN                   |
| AGW                   | DEU     | 49     | 10  | 98         | 20  | SKIN                   |
| MAK                   | DEU     | 49     | 10  | 98         | 20  | SKIN                   |
| TLV                   | DNK     | 98     | 20  | 196        | 40  | SKIN                   |

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|           |     |     |    |     |    |      |
|-----------|-----|-----|----|-----|----|------|
| VLA       | ESP | 98  | 20 | 245 | 50 | SKIN |
| TLV       | EST | 98  | 20 | 246 | 50 | SKIN |
| VLEP      | FRA | 49  | 10 | 246 | 50 | SKIN |
| HTP       | FIN | 98  | 20 | 250 | 50 | SKIN |
| TLV       | GRC | 120 | 25 |     |    |      |
| AK        | HUN | 98  |    | 246 |    |      |
| GVI/KGVI  | HRV | 98  | 20 | 246 | 50 | SKIN |
| VLEP      | ITA | 98  | 20 | 246 | 50 | SKIN |
| OELV      | IRL | 98  | 20 | 246 | 50 | SKIN |
| RD        | LTU | 50  | 10 | 100 | 20 | SKIN |
| RV        | LVA | 98  | 20 | 246 | 50 | SKIN |
| TLV       | NOR | 50  | 10 |     |    | SKIN |
| TGG       | NLD | 100 |    | 246 |    | SKIN |
| NDS/NDSch | POL | 98  |    | 200 |    |      |
| TLV       | ROU | 98  | 20 | 246 | 50 |      |
| NGV/KGV   | SWE | 50  | 10 | 246 | 50 | SKIN |
| NPEL      | SVK | 98  | 20 | 246 |    | SKIN |
| MV        | SVN | 98  | 20 |     |    | SKIN |
| ESD       | TUR | 98  | 20 | 246 | 50 | SKIN |
| WEL       | GBR | 123 | 25 | 246 | 50 | SKIN |
| OEL       | EU  | 98  | 20 | 246 | 50 | SKIN |
| TLV-ACGIH |     |     | 20 |     |    |      |

## Predicted no-effect concentration - PNEC

|                                              |      |       |
|----------------------------------------------|------|-------|
| Normal value in fresh water                  | 8,8  | mg/l  |
| Normal value in marine water                 | 0,88 | mg/l  |
| Normal value for fresh water sediment        | 34,6 | mg/kg |
| Normal value for marine water sediment       | 3,46 | mg/kg |
| Normal value of STP microorganisms           | 463  | mg/l  |
| Normal value for the terrestrial compartment | 2,8  | mg/kg |

## Health - Derived no-effect level - DNEL / DMEL

Effects on consumers

Effects on workers

| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
|-------------------|-------------|----------------|---------------|------------------|-------------|----------------|---------------|------------------|
| Oral              |             | 13,4 mg/kg/d   |               | 3,2 mg/kg/d      |             |                |               |                  |
| Inhalation        |             | 426 mg/m3      |               |                  |             | 652 mg/m3      |               | 98 mg/m3         |
| Skin              |             | 44,5 mg/kg/d   |               | 38 mg/kg/d       |             | 89 mg/kg/d     |               | 75 mg/kg/d       |

## 2-PROPYN-1-OL, COMPD. WITH METHYLOXIRANE

## Health - Derived no-effect level - DNEL / DMEL

Effects on consumers

Effects on workers

| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
|-------------------|-------------|----------------|---------------|------------------|-------------|----------------|---------------|------------------|
| Oral              |             |                |               | 0,15 mg/kg       |             |                |               |                  |
| Inhalation        |             |                |               | 0,521 mg/m3      |             |                |               | 2,115 mg/m3      |
| Skin              |             |                |               | 0,75 mg/kg       |             |                |               | 1,5 mg/kg        |

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## Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.  
VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

**8.2. Exposure controls**

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

**HAND PROTECTION**

Protect hands with category III work gloves (see standard EN 374).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

**SKIN PROTECTION**

Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

**EYE PROTECTION**

Wear airtight protective goggles (see standard EN 166).

**RESPIRATORY PROTECTION**

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

**ENVIRONMENTAL EXPOSURE CONTROLS**

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

**SECTION 9. Physical and chemical properties****9.1. Information on basic physical and chemical properties**

|                                  |                  |
|----------------------------------|------------------|
| Appearance                       | liquid           |
| Colour                           | yellow           |
| Odour                            | characteristic   |
| Odour threshold                  | Not available    |
| pH                               | 1,0              |
| Melting point / freezing point   | Not available    |
| Initial boiling point            | 100 °C           |
| Boiling range                    | Not available    |
| Flash point                      | > 100 °C         |
| Evaporation Rate                 | Not available    |
| Flammability of solids and gases | Not applicable   |
| Lower inflammability limit       | Not available    |
| Upper inflammability limit       | Not available    |
| Lower explosive limit            | Not available    |
| Upper explosive limit            | Not available    |
| Vapour pressure                  | Not available    |
| Vapour density                   | Not available    |
| Relative density                 | 1,12 - 1,22 kg/L |

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Solubility in water: complete

Partition coefficient: n-octanol/water Not available

Auto-ignition temperature Not available

Decomposition temperature Not available

Viscosity Not available

Explosive properties Not available

Oxidising properties Not available

**9.2. Other information**

VOC (Directive 2010/75/EC) : 8,00 % - 91,88 g/litre

**SECTION 10. Stability and reactivity****10.1. Reactivity**

There are no particular risks of reaction with other substances in normal conditions of use.

**PHOSPHORIC ACID**

It can give violent reaction. An exothermic reaction can occur in contact with water. In contact with reactive metals (mild steel, aluminum etc) hydrogen (explosive) can develop. Reaction with reducing agents.

**10.2. Chemical stability**

The product is stable in normal conditions of use and storage.

**10.3. Possibility of hazardous reactions**

No hazardous reactions are foreseeable in normal conditions of use and storage.

**2-PROPYN-1-OL, COMPD. WITH METHYLOXIRANE**

Reacts with: bases, acids, heavy metals salts, oxidising agents.

**10.4. Conditions to avoid**

None in particular. However the usual precautions used for chemical products should be respected.

**2-BUTOXYETHANOL**

Avoid exposure to: excessive heat (prolonged period).

**10.5. Incompatible materials****PHOSPHORIC ACID**

Incompatible materials: metals.

**2-BUTOXYETHANOL**

Avoid contact with: strong acids, strong oxidising agents.

**2-PROPYN-1-OL, COMPD. WITH METHYLOXIRANE**

Avoid contact with: acids, strong bases, strong oxidising agents, heavy metals salts.

**QUATERNARY AMMONIUM COMPOUNDS, BENZYL-C12-16-ALKYLDIMETHYL, CHLORIDES**

Incompatible with: oxidising agents, anionic compounds.

**10.6. Hazardous decomposition products****2-BUTOXYETHANOL**

May develop: carbon oxides.

**SECTION 11. Toxicological information**

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

**11.1. Information on toxicological effects**

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Metabolism, toxicokinetics, mechanism of action and other information

Information not available.

Information on likely routes of exposure

Information not available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Information not available.

Interactive effects

Information not available.

ACUTE TOXICITY

|                                  |              |
|----------------------------------|--------------|
| ATE (Inhalation) of the mixture: | > 20 mg/l    |
| ATE (Oral) of the mixture:       | > 2000 mg/kg |
| ATE (Dermal) of the mixture:     | > 2000 mg/kg |

2-BUTOXYETHANOL

|               |                       |
|---------------|-----------------------|
| LD50 (Oral)   | 1300 mg/kg Rat        |
| LD50 (Dermal) | 1100 mg/kg (OECD 402) |

PHOSPHORIC ACID

|               |                       |
|---------------|-----------------------|
| LD50 (Oral)   | > 1518 mg/kg Rat      |
| LD50 (Dermal) | 2000 mg/kg bw/day Rat |

2-PROPYN-1-OL, COMPD. WITH METHYLOXIRANE

|               |                             |
|---------------|-----------------------------|
| LD50 (Oral)   | > 464 mg/kg Rat             |
| LD50 (Dermal) | > 2000 mg/kg Rat (OECD 402) |

QUATERNARY AMMONIUM COMPOUNDS, BENZYL-C12-16-ALKYLDIMETHYL, CHLORIDES

|               |                           |
|---------------|---------------------------|
| LD50 (Oral)   | 795 mg/kg Rat             |
| LD50 (Dermal) | > 5000 mg/kg (calculated) |

SKIN CORROSION / IRRITATION

Corrosive for the skin. Classification according to the experimental pH value.

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye damage.

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class.

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class.

CARCINOGENICITY

Does not meet the classification criteria for this hazard class.

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class.

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class.

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class.

**ASPIRATION HAZARD**

Does not meet the classification criteria for this hazard class.

**SECTION 12. Ecological information**

This product is dangerous for the environment and the aquatic organisms. In the long term, it have negative effects on aquatic environment.

**12.1. Toxicity****2-BUTOXYETHANOL**

|                                   |                                                                 |
|-----------------------------------|-----------------------------------------------------------------|
| LC50 - for Fish                   | 1474 mg/l/96h <i>Onchorhynchus mykiss</i> (OECD 203)            |
| EC50 - for Crustacea              | 1550 mg/l/48h <i>Daphnia magna</i> (OECD 202)                   |
| EC50 - for Algae / Aquatic Plants | 1840 mg/l/72h <i>Pseudokirchneriella subcapitata</i> (OECD 201) |
| Chronic NOEC for Crustacea        | 100 mg/l 21d - <i>Daphnia magna</i>                             |

**PHOSPHORIC ACID**

|                                   |               |
|-----------------------------------|---------------|
| EC50 - for Algae / Aquatic Plants | 77,9 mg/l/72h |
|-----------------------------------|---------------|

**2-PROPYN-1-OL, COMPD. WITH METHYLOXIRANE**

|                                   |                                                          |
|-----------------------------------|----------------------------------------------------------|
| LC50 - for Fish                   | > 100 mg/l/96h <i>Leuciscus idus</i>                     |
| EC50 - for Crustacea              | > 100 mg/l/48h <i>Daphnia magna</i> (OECD 202)           |
| EC50 - for Algae / Aquatic Plants | > 100 mg/l/72h <i>Desmodesmus subspicatus</i> (OECD 201) |

**QUATERNARY AMMONIUM COMPOUNDS, BENZYL-C12-16-ALKYLDIMETHYL, CHLORIDES**

|                                   |                                                                   |
|-----------------------------------|-------------------------------------------------------------------|
| LC50 - for Fish                   | 0,85 mg/l/96h <i>Oncorhynchus mykiss</i> (OECD 203)               |
| EC50 - for Crustacea              | 0,016 mg/l/48h <i>Daphnia magna</i>                               |
| EC50 - for Algae / Aquatic Plants | 0,02 mg/l/72h <i>Selenastrum capricornutum</i> (OECD 201)         |
| EC10 for Algae / Aquatic Plants   | 0,0025 mg/l/72h <i>Pseudokirchneriella subcapitata</i> (OECD 201) |
| Chronic NOEC for Crustacea        | 0,025 mg/l 21d - <i>Daphnia magna</i> (OECD 211)                  |

**12.2. Persistence and degradability****2-BUTOXYETHANOL**

|                     |                   |
|---------------------|-------------------|
| Solubility in water | 1000 - 10000 mg/l |
| Rapidly degradable  | 90,4 % - 28d      |

**PHOSPHORIC ACID**

|                     |         |
|---------------------|---------|
| Solubility in water | Soluble |
|---------------------|---------|

**2-PROPYN-1-OL, COMPD. WITH METHYLOXIRANE**

|                    |                            |
|--------------------|----------------------------|
| Rapidly degradable | 90/100% - 21d (OECD 301 A) |
|--------------------|----------------------------|

**QUATERNARY AMMONIUM COMPOUNDS, BENZYL-C12-16-ALKYLDIMETHYL, CHLORIDES**

|                    |                                             |
|--------------------|---------------------------------------------|
| Rapidly degradable | > 90% (OECD 303 A, activated sludge - HPLC) |
|--------------------|---------------------------------------------|

**12.3. Bioaccumulative potential**

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## 2-BUTOXYETHANOL

Partition coefficient: n-octanol/water 0,8  
BCF < 100

## QUATERNARY AMMONIUM COMPOUNDS, BENZYL-C12-16-ALKYLDIMETHYL, CHLORIDES

Partition coefficient: n-octanol/water 2,88 Log Kow (OECD 107)

## 12.4. Mobility in soil

Information not available.

## 12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage  $\geq$  than 0,1%.

## 12.6. Other adverse effects

Information not available.

## SECTION 13. Disposal considerations

## 13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

Waste transportation may be subject to ADR restrictions.

## CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

## SECTION 14. Transport information

## 14.1. UN number

ADR / RID, IMDG, IATA: 3264

## 14.2. UN proper shipping name

ADR / RID: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (PHOSPHORIC ACID)

IMDG: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (PHOSPHORIC ACID)

IATA: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (PHOSPHORIC ACID)

## 14.3. Transport hazard class(es)

ADR / RID: Class: 8 Label: 8

IMDG: Class: 8 Label: 8

IATA: Class: 8 Label: 8



## 14.4. Packing group

ADR / RID, IMDG, IATA: III

**14.5. Environmental hazards**

ADR / RID: NO  
IMDG: NO  
IATA: NO

**14.6. Special precautions for user**

|            |                       |                         |                              |
|------------|-----------------------|-------------------------|------------------------------|
| ADR / RID: | HIN - Kemler: 80      | Limited Quantities: 5 L | Tunnel restriction code: (E) |
|            | Special Provision: -  |                         |                              |
| IMDG:      | EMS: F-A, S-B         | Limited Quantities: 5 L |                              |
| IATA:      | Cargo:                | Maximum quantity: 60 L  | Packaging instructions: 856  |
|            | Pass.:                | Maximum quantity: 5 L   | Packaging instructions: 852  |
|            | Special Instructions: | A3, A803                |                              |

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

Information not relevant.

**SECTION 15. Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Seveso Category - Directive 2012/18/EC: None.

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product

Point 3

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage  $\geq$  than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None.

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None.

Substances subject to the Rotterdam Convention:

None.

Substances subject to the Stockholm Convention:

None.

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

German regulation on the classification of substances hazardous to water (AwSV, vom 18. April 2017)

WGK 2: Hazard to waters.

**15.2. Chemical safety assessment**

A chemical safety assessment has not been performed for the mixture.

**SECTION 16. Other information**

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

|                          |                                                                    |
|--------------------------|--------------------------------------------------------------------|
| <b>Met. Corr. 1</b>      | Substance or mixture corrosive to metals, category 1               |
| <b>Acute Tox. 4</b>      | Acute toxicity, category 4                                         |
| <b>Skin Corr. 1B</b>     | Skin corrosion, category 1B                                        |
| <b>Eye Dam. 1</b>        | Serious eye damage, category 1                                     |
| <b>Eye Irrit. 2</b>      | Eye irritation, category 2                                         |
| <b>Skin Irrit. 2</b>     | Skin irritation, category 2                                        |
| <b>Aquatic Acute 1</b>   | Hazardous to the aquatic environment, acute toxicity, category 1   |
| <b>Aquatic Chronic 1</b> | Hazardous to the aquatic environment, chronic toxicity, category 1 |
| <b>Aquatic Chronic 3</b> | Hazardous to the aquatic environment, chronic toxicity, category 3 |
| <b>H290</b>              | May be corrosive to metals.                                        |
| <b>H302</b>              | Harmful if swallowed.                                              |
| <b>H312</b>              | Harmful in contact with skin.                                      |
| <b>H332</b>              | Harmful if inhaled.                                                |
| <b>H314</b>              | Causes severe skin burns and eye damage.                           |
| <b>H318</b>              | Causes serious eye damage.                                         |
| <b>H319</b>              | Causes serious eye irritation.                                     |
| <b>H315</b>              | Causes skin irritation.                                            |
| <b>H400</b>              | Very toxic to aquatic life.                                        |
| <b>H410</b>              | Very toxic to aquatic life with long lasting effects.              |
| <b>H412</b>              | Harmful to aquatic life with long lasting effects.                 |

**LEGEND:**

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

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Classification and procedure used to derive it in accordance with Regulation (EC) 1272/2008 (CLP) in relation to mixtures:

| Classification according to Regulation (EC) No. 1272/2008 | Classification procedure |
|-----------------------------------------------------------|--------------------------|
| Met. Corr. 1 H290                                         | Expert judgment          |
| Skin Corr. 1B H314                                        | Calculation method       |
| Eye Dam. 1 H318                                           | Calculation method       |
| Aquatic Chronic 3 H412                                    | Calculation method       |

## GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
  2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
  3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
  4. Regulation (EU) 2015/830 of the European Parliament
  5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
  6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
  7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
  8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
  9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
  10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
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  16. Regulation (EU) 2019/521 (XII Atp. CLP)
- The Merck Index. - 10th Edition
  - Handling Chemical Safety
  - INRS - Fiche Toxicologique (toxicological sheet)
  - Patty - Industrial Hygiene and Toxicology
  - N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
  - IFA GESTIS website
  - ECHA website
  - Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

## Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

## CALCULATION METHODS FOR CLASSIFICATION

Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.

Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

## Changes to previous review:

The following sections were modified:

01 / 02 / 03 / 07 / 08 / 09 / 10 / 11 / 12 / 14 / 15.