# Safety Data Sheet

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

| | | | |
|---|---|---|---|
| **Trade name :** | W&H Cleaning Solution MC-1000 | | |
| **Revision date :** | 12.01.2014 | **Version (Revision) :** | 2.0.0 (1.0.0) |
| **Date of print :** | 12.01.2014 | | |

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

### 1.1 Product identifier

W&H Cleaning Solution MC-1000

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

#### Relevant identified uses

Cleaner for turbines, straight and contra-angle handpieces, air motors etc. with W&H ASSISTINA.

**Product categories [PC]**

PC35 - Washing and cleaning products (including solvent based products)

#### Uses advised against

None, if handled according to order.

#### Remark

The product is intended for professional use.

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

#### Supplier (manufacturer/importer/only representative/downstream user/distributor)

orochemie GmbH + Co. KG

**Street :** Max-Planck-Straße 27

**Postal code/city :** 70806 Kornwestheim

**Telephone :** +49 7154 1308-0

**Telefax :** +49 7154 1308-40

**Information contact :** W&H DENTALWERK BÜRMOOS G.m.b.H., Ignaz-Glaser-Str. 53, A-5111 Bürmoos Austria

Phone No.: +43 6274/6236-0, Telefax No.: +43 6274 6236-55

### 1.4 Emergency telephone number

INT: +49 6132 84463 (24 h/7 d)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flam. Liq. 3 ; H226 - Flammable liquids : Category 3 ; Flammable liquid and vapour.

STOT SE 3 ; H336 - Specific target organ toxicity (single exposure) : Category 3 ; May cause drowsiness or dizziness.

**Classification procedure**

The classification was carried out according to the calculation method of Regulation No. (EC) 1272/2008 [CLP] as well as in-house investigations.

#### Classification according to Directive 67/548/EEC or 1999/45/EC

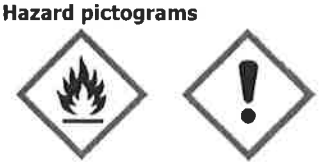
Flammable. · Vapours may cause drowsiness and dizziness.

R 10 · R 67

### 2.2 Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

**Hazard pictograms**



Flame (GHS02) · Exclamation mark (GHS07)

**Signal word**
Warning

**Hazard statements**

| | |
|---|---|
| H226 | Flammable liquid and vapour. |
| H336 | May cause drowsiness or dizziness. |

**Precautionary statements**

| | |
|---|---|
| P210 | Keep away from heat/sparks/open flames/hot surfaces. - No smoking. |
| P280 | Wear protective gloves. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P403+P235 | Store in a well-ventilated place. Keep cool. |
| P501 | Dispose of contents/container to hazardous or special waste collection point. |

### Labelling (67/548/EEC or 1999/45/EC)

**R-phrases**

| | |
|---|---|
| 10 | Flammable. |
| 67 | Vapours may cause drowsiness and dizziness. |

**S-phrases**

| | |
|---|---|
| 37 | Wear suitable gloves. |
| 16 | Keep away from sources of ignition - No smoking. |

### 2.3 Other hazards
None

## SECTION 3: Composition/ information on ingredients

### 3.2 Mixtures
**Description**
W&H Cleaning solution contains alcohols and auxiliary agents in aqueous solution.

**Hazardous ingredients**

1-PROPANOL ; REACH registration No. : 01-2119486761-29 ; EC No : 200-746-9; CAS No. : 71-23-8

| | |
|---|---|
| Weight fraction : | 30 - 35 % |
| Classification 67/548/EEC : | F ; R11 Xi ; R41 R67 |
| Classification 1272/2008 [CLP] : | Flam. Liq. 2 ; H225 Eye Dam. 1 ; H318 STOT SE 3 ; H336 |

ETHANOL ; REACH registration No. : 01-2119457610-43 ; EC No : 200-578-6; CAS No. : 64-17-5

| | |
|---|---|
| Weight fraction : | 25 - 30 % |
| Classification 67/548/EEC : | F ; R11 |
| Classification 1272/2008 [CLP] : | Flam. Liq. 2 ; H225 |

PROPAN-2-OL ; REACH registration No. : 01-2119457558-25 ; EC No : 200-661-7; CAS No. : 67-63-0

| | |
|---|---|
| Weight fraction : | 1 - 2 % |
| Classification 67/548/EEC : | F ; R11 Xi ; R36 R67 |
| Classification 1272/2008 [CLP] : | Flam. Liq. 2 ; H225 Eye Irrit. 2 ; H319 STOT SE 3 ; H336 |

**Additional information**
Full text of R-, H- and EUH-phrases: see section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures
#### General information
When in doubt or if symptoms are observed, get medical advice.
#### After inhalation
Provide fresh air. In case of respiratory tract irritation, consult a physician.
#### In case of skin contact

Wash with plenty of water. When in doubt or if symptoms are observed, get medical advice.

### After eye contact
In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

### After ingestion
If swallowed, mmediately drink: Water Never give anything by mouth to an unconscious person or a person with cramps. Do not induce vomiting. Call a physician immediately.

## 4.2 Most important symptoms and effects, both acute and delayed
Vapours may cause drowsiness and dizziness.

## 4.3 Indication of any immediate medical attention and special treatment needed
None

## SECTION 5: Firefighting measures

## 5.1 Extinguishing media
### Suitable extinguishing media
Carbon dioxide (CO2). Extinguishing powder. Water spray Water mist

### Unsuitable extinguishing media
High power water jet.

## 5.2 Special hazards arising from the substance or mixture
None known.

### Hazardous combustion products
Vapours can form explosive mixtures with air.

## 5.3 Advice for firefighters
Cool endangered containers with water in case of fire.

### Special protective equipment for firefighters
In case of fire: Wear self-contained breathing apparatus.

## SECTION 6: Accidental release measures

## 6.1 Personal precautions, protective equipment and emergency procedures
Use personal protection equipment. Remove all sources of ignition. When using do not smoke. See protective measures under point 7 and 8.

### For non-emergency personnel
Use personal protection equipment. See protective measures under point 7 and 8.

### For emergency responders
**Personal protection equipment**

See protective measures under point 7 and 8.

## 6.2 Environmental precautions
Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

## 6.3 Methods and material for containment and cleaning up
### For cleaning up
Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Collect in closed and suitable containers for disposal.

### Other information
Treat the recovered material as prescribed in the section on waste disposal.

## 6.4 Reference to other sections
None

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Keep/Store only in original container. Please note safety instructions and directions for use on the drum. Open and handle container with care. Keep away from sources of ignition. - No smoking. Provide adequate ventilation. Do not breathe vapour/aerosol.

#### Protective measures

**Fire prevent measures**

Usual measures for fire prevention. Keep away from sources of ignition. - No smoking.

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

#### Requirements for storage rooms and vessels

Keep/Store only in original container. Keep container tightly closed. Keep in a cool, well-ventilated place. Do not store in temperatures below 5 °C.

#### Hints on joint storage

Do not store together with oxidizing, self-igniting substances and highly flammable solid substances. Store the foodstuffs separately.

### 7.3 Specific end use(s)

None

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limit values

1-PROPANOL ; CAS No. : 71-23-8

| | |
|---|---|
| Limit value type (country of origin) : | TLV/STEL ( GB ) |
| Limit value : | 250 ppm / 625 mg/m$^3$ |

ETHANOL ; CAS No. : 64-17-5

| | |
|---|---|
| Limit value type (country of origin) : | TLV/TWA ( GB ) |
| Limit value : | 1000 ppm / 1920 mg/m$^3$ |

PROPAN-2-OL ; CAS No. : 67-63-0

| | |
|---|---|
| Limit value type (country of origin) : | TLV/STEL ( GB ) |
| Limit value : | 500 ppm / 1250 mg/m$^3$ |
| Limit value type (country of origin) : | TLV/TWA ( GB ) |
| Limit value : | 400 ppm / 999 mg/m$^3$ |

#### DNEL/DMEL and PNEC values

There are no data available on the preparation itself.

**DNEL/DMEL**

| | |
|---|---|
| Limit value type : | DNEL/DMEL (DNEL Consumer, Local) ( ETHANOL ; CAS No. : 64-17-5 ) |
| Exposure route : | Inhalation |
| Exposure frequency : | Short-term (acute) |
| Limit value : | 950 mg/m$^3$ |
| Limit value type : | DNEL/DMEL (DNEL Consumer, Systemic) ( ETHANOL ; CAS No. : 64-17-5 ) |
| Exposure route : | Oral |
| Exposure frequency : | Long-term (repeated) |
| Limit value : | 87 mg/kg |
| Safety factor : | 24 h |
| Limit value type : | DNEL/DMEL (DNEL Consumer, Systemic) ( 1-PROPANOL ; CAS No. : 71-23-8 ) |
| Exposure route : | Inhalation |
| Exposure frequency : | Short-term (acute) |
| Limit value : | 1036 mg/m$^3$ |
| Limit value type : | DNEL/DMEL (DNEL Consumer, Systemic) ( PROPAN-2-OL ; CAS No. : 67-63-0 ) |
| Exposure route : | Dermal |

| | |
|---|---|
| Exposure frequency : | Long-term (repeated) |
| Limit value : | 319 mg/kg |
| Safety factor : | 24 h |
| Limit value type : | DNEL/DMEL (DNEL Consumer, Systemic) ( PROPAN-2-OL ; CAS No. : 67-63-0 ) |
| Exposure route : | Inhalation |
| Exposure frequency : | Long-term (repeated) |
| Limit value : | 89 mg/m$^3$ |
| Limit value type : | DNEL/DMEL (DNEL Consumer, Systemic) ( 1-PROPANOL ; CAS No. : 71-23-8 ) |
| Exposure route : | Dermal |
| Exposure frequency : | Long-term (repeated) |
| Limit value : | 81 mg/kg |
| Limit value type : | DNEL/DMEL (DNEL Consumer, Systemic) ( ETHANOL ; CAS No. : 64-17-5 ) |
| Exposure route : | Dermal |
| Exposure frequency : | Long-term (repeated) |
| Limit value : | 206 mg/kg |
| Safety factor : | 24 h |
| Limit value type : | DNEL/DMEL (DNEL Consumer, Systemic) ( ETHANOL ; CAS No. : 64-17-5 ) |
| Exposure route : | Inhalation |
| Exposure frequency : | Long-term (repeated) |
| Limit value : | 114 mg/m$^3$ |
| Limit value type : | DNEL/DMEL (DNEL Consumer, Systemic) ( 1-PROPANOL ; CAS No. : 71-23-8 ) |
| Exposure route : | Inhalation |
| Exposure frequency : | Long-term (repeated) |
| Limit value : | 80 mg/m$^3$ |
| Limit value type : | DNEL/DMEL (DNEL Consumer, Systemic) ( PROPAN-2-OL ; CAS No. : 67-63-0 ) |
| Exposure route : | Oral |
| Exposure frequency : | Long-term (repeated) |
| Limit value : | 26 mg/kg |
| Safety factor : | 24 h |
| Limit value type : | DNEL/DMEL (DNEL Consumer, Systemic) ( 1-PROPANOL ; CAS No. : 71-23-8 ) |
| Exposure route : | Oral |
| Exposure frequency : | Long-term (repeated) |
| Limit value : | 61 mg/kg |
| Limit value type : | DNEL/DMEL (Worker, Local) ( ETHANOL ; CAS No. : 64-17-5 ) |
| Exposure route : | Inhalation |
| Exposure frequency : | Short-term (acute) |
| Limit value : | 1900 mg/m$^3$ |
| Limit value type : | DNEL/DMEL (Worker, Systemic) ( ETHANOL ; CAS No. : 64-17-5 ) |
| Exposure route : | Dermal |
| Exposure frequency : | Long-term (repeated) |
| Limit value : | 343 mg/kg |
| Safety factor : | 24 h |
| Limit value type : | DNEL/DMEL (Worker, Systemic) ( 1-PROPANOL ; CAS No. : 71-23-8 ) |
| Exposure route : | Inhalation |
| Exposure frequency : | Short-term (acute) |
| Limit value : | 1723 mg/m$^3$ |
| Limit value type : | DNEL/DMEL (Worker, Systemic) ( PROPAN-2-OL ; CAS No. : 67-63-0 ) |
| Exposure route : | Dermal |
| Exposure frequency : | Long-term (repeated) |
| Limit value : | 888 mg/kg |
| Safety factor : | 24 h |
| Limit value type : | DNEL/DMEL (Worker, Systemic) ( PROPAN-2-OL ; CAS No. : 67-63-0 ) |
| Exposure route : | Inhalation |
| Exposure frequency : | Long-term (repeated) |
| Limit value : | 500 mg/m$^3$ |
| Limit value type : | DNEL/DMEL (Worker, Systemic) ( 1-PROPANOL ; CAS No. : 71-23-8 ) |

| | |
|---|---|
| Exposure route : | Dermal |
| Exposure frequency : | Long-term (repeated) |
| Limit value : | 136 mg/kg |
| Limit value type : | DNEL/DMEL (Worker, Systemic) ( ETHANOL ; CAS No. : 64-17-5 ) |
| Exposure route : | Inhalation |
| Exposure frequency : | Long-term (repeated) |
| Limit value : | 950 mg/m$^3$ |
| Limit value type : | DNEL/DMEL (Worker, Systemic) ( 1-PROPANOL ; CAS No. : 71-23-8 ) |
| Exposure route : | Inhalation |
| Exposure frequency : | Long-term (repeated) |
| Limit value : | 268 mg/m$^3$ |

**PNEC**

| | |
|---|---|
| Limit value type : | PNEC aquatic, freshwater ( ETHANOL ; CAS No. : 64-17-5 ) |
| Limit value : | 960 µg/l |
| Limit value type : | PNEC aquatic, freshwater ( 1-PROPANOL ; CAS No. : 71-23-8 ) |
| Limit value : | 10 mg/l |
| Limit value type : | PNEC aquatic, freshwater ( PROPAN-2-OL ; CAS No. : 67-63-0 ) |
| Limit value : | 140,9 mg/l |
| Limit value type : | PNEC aquatic, marine water ( PROPAN-2-OL ; CAS No. : 67-63-0 ) |
| Limit value : | 140,9 mg/l |
| Limit value type : | PNEC aquatic, marine water ( 1-PROPANOL ; CAS No. : 71-23-8 ) |
| Limit value : | 1 mg/l |
| Limit value type : | PNEC aquatic, marine water ( ETHANOL ; CAS No. : 64-17-5 ) |
| Limit value : | 790 µg/l |
| Limit value type : | PNEC (Industrial) ( ETHANOL ; CAS No. : 64-17-5 ) |
| Exposure route : | Soil |
| Limit value : | 0,63 mg/kg |
| Limit value type : | PNEC (Industrial) ( 1-PROPANOL ; CAS No. : 71-23-8 ) |
| Exposure route : | Soil |
| Limit value : | 2,2 mg/kg |
| Limit value type : | PNEC (Industrial) ( PROPAN-2-OL ; CAS No. : 67-63-0 ) |
| Exposure route : | Soil |
| Limit value : | 28 mg/kg |
| Limit value type : | PNEC sediment, freshwater ( PROPAN-2-OL ; CAS No. : 67-63-0 ) |
| Limit value : | 552 mg/kg |
| Limit value type : | PNEC sediment, freshwater ( 1-PROPANOL ; CAS No. : 71-23-8 ) |
| Limit value : | 22,8 mg/kg |
| Limit value type : | PNEC sediment, freshwater ( ETHANOL ; CAS No. : 64-17-5 ) |
| Limit value : | 3,6 mg/kg |
| Limit value type : | PNEC sediment, marine water ( 1-PROPANOL ; CAS No. : 71-23-8 ) |
| Limit value : | 2,28 mg/kg |
| Limit value type : | PNEC Secondary Poisoning ( ETHANOL ; CAS No. : 64-17-5 ) |
| Limit value : | 0,72 mg/kg |
| Limit value type : | PNEC Secondary Poisoning ( PROPAN-2-OL ; CAS No. : 67-63-0 ) |
| Limit value : | 160 mg/kg |
| Limit value type : | PNEC sewage treatment plant (STP) ( PROPAN-2-OL ; CAS No. : 67-63-0 ) |
| Limit value : | 2251 mg/l |

## 8.2 Exposure controls

### Personal protection equipment

### Eye / face protection

Eye glasses with side protection DIN EN 166

### Skin protection

#### Hand protection

Short-term exposure (Level 2: < 30 min): disposable gloves to EN374 category III, e.g. nitrile rubber, material

thickness 0.1 mm.
Long-term exposure (Level 6: < 480 min): protective gloves to EN374 category III, e.g. nitrile rubber, material thickness 0.7 mm.
When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits.

**Body protection**

Body protection: not applicable.

### Respiratory protection

Usually no personal respirative protection necessary.

### General health and safety measures

Keep away from food, drink and animal feeding stuffs. Avoid contact with skin, eyes and clothes. Remove contaminated, saturated clothing. Wash hands before breaks and after work. Separate storage of work clothes. When using do not eat, drink, smoke, sniff.

### Occupational exposure controls

### Technical measures to prevent exposure

Provide adequate ventilation.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

**Appearance :** liquid

**Colour :** colourless

**Odour :** Alcohol

### Safety relevant basis data

| | | | | | |
|---|---|---|---|---|---|
| **Melting point / melting range :** | ( 1013 hPa ) | | No data available | | |
| **Boiling temperature / boiling range :** | ( 1013 hPa ) | | No data available | | |
| **Decomposition temperature :** | ( 1013 hPa ) | | No data available | | |
| **Flash point :** | | | 25 | °C | |
| **Ignition temperature :** | | | 360 | °C | |
| **Lower explosion limit :** | | | 2,1 | Vol-% | |
| **Upper explosion limit :** | | | 15 | Vol-% | |
| **Vapour pressure :** | ( 50 °C ) | ca. | 150 | hPa | |
| **Density :** | ( 20 °C ) | | 0,87 - 0,91 | g/cm³ | |
| **Solvent separation test :** | ( 20 °C ) | < | 3 | % | |
| **Water solubility :** | ( 20 °C ) | | 100 | Wt % | |
| **pH value :** | | | 5 - 8,5 | | |
| **log P O/W :** | | | No data available | | |
| **Flow time :** | ( 20 °C ) | < | 20 | s | DIN-cup 4 mm |
| **Odour threshold :** | | | No data available | | |
| **Oxidising liquids :** | Not applicable. | | | | |
| **Explosive properties :** | Not applicable. | | | | |
| **Corrosive to metals :** | Not corrosive to metals. | | | | |

### 9.2 Other information

None

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

None, if handled according to order.

### 10.2 Chemical stability

Stable under recommended storage and handling conditions (see section 7).

### 10.3 Possibility of hazardous reactions
Vapours can form explosive mixtures with air.

### 10.4 Conditions to avoid
No information available.

### 10.5 Incompatible materials
Oxidising agent.

### 10.6 Hazardous decomposition products
None known.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute effects

**Acute oral toxicity**

| | |
|---|---|
| Parameter : | LD50 |
| Exposure route : | Oral |
| Species : | Rat |
| Effective dose : | > 2000 mg/kg |

Methode : OECD 401.

**Practical experience/human evidence**

The product does not have any skin irritating or sensitizing properties. There is no inhalation risk under normal application conditions.

**Acute dermal toxicity**

| | |
|---|---|
| Parameter : | LD50 |
| Exposure route : | Dermal |
| Species : | Rat |
| Effective dose : | > 2000 mg/kg |

Methode : OECD 402.

**Acute inhalation toxicity**

| | |
|---|---|
| Parameter : | LC50 ( 1-PROPANOL ; CAS No. : 71-23-8 ) |
| Exposure route : | Inhalation |
| Species : | Rat |
| Effective dose : | > 33,8 mg/l |
| Exposure time : | 4 h |
| Parameter : | LC50 ( ETHANOL ; CAS No. : 64-17-5 ) |
| Exposure route : | Inhalation |
| Species : | Rat |
| Effective dose : | > 51 mg/l |
| Exposure time : | 4 h |
| Parameter : | LD50 ( PROPAN-2-OL ; CAS No. : 67-63-0 ) |
| Exposure route : | Inhalation |
| Species : | Rat |
| Effective dose : | 47,5 mg/l |

#### Irritant and corrosive effects
Rabbit´s eye: no irritation. Methode : OECD 405.

#### Sensitisation
There are no data available on the mixture itself.

### 11.4 Additional information
The classification was carried out according to the calculation method of Regulation No. (EC) 1272/2008 [CLP] as well as in-house investigations.

## SECTION 12: Ecological information

### 12.1 Toxicity

#### Aquatic toxicity

There are no data available on the preparation itself.

**Acute (short-term) fish toxicity**

| | |
|---|---|
| Parameter : | LC50 ( ETHANOL ; CAS No. : 64-17-5 ) |
| Species : | Oncorhynchus mykiss (Rainbow trout) |
| Evaluation parameter : | Acute (short-term) fish toxicity |
| Effective dose : | 11200 mg/l |
| Parameter : | LC50 ( 1-PROPANOL ; CAS No. : 71-23-8 ) |
| Species : | Pimephales promelas (fathead minnow) |
| Evaluation parameter : | Acute (short-term) fish toxicity |
| Effective dose : | 4480 mg/l |
| Exposure time : | 96 h |
| Parameter : | LC50 ( PROPAN-2-OL ; CAS No. : 67-63-0 ) |
| Species : | Pimephales promelas (fathead minnow) |
| Evaluation parameter : | Acute (short-term) fish toxicity |
| Effective dose : | 9640 mg/l |
| Exposure time : | 96 h |

**Acute (short-term) daphnia toxicity**

| | |
|---|---|
| Parameter : | EC50 ( 1-PROPANOL ; CAS No. : 71-23-8 ) |
| Species : | Daphnia magna (Big water flea) |
| Evaluation parameter : | Acute (short-term) daphnia toxicity |
| Effective dose : | 3644 mg/l |
| Exposure time : | 48 h |
| Parameter : | EC50 ( PROPAN-2-OL ; CAS No. : 67-63-0 ) |
| Species : | Daphnia magna (Big water flea) |
| Evaluation parameter : | Acute (short-term) daphnia toxicity |
| Effective dose : | 13299 mg/l |
| Exposure time : | 48 h |
| Parameter : | EC50 ( PROPAN-2-OL ; CAS No. : 67-63-0 ) |
| Species : | Daphnia magna (Big water flea) |
| Evaluation parameter : | Acute (short-term) daphnia toxicity |
| Effective dose : | 9714 mg/l |
| Exposure time : | 24 h |
| Parameter : | EC50 ( ETHANOL ; CAS No. : 64-17-5 ) |
| Species : | Ceriodaphnia spec |
| Evaluation parameter : | Acute (short-term) daphnia toxicity |
| Effective dose : | 1806 mg/l |

**Acute (short-term) algae toxicity**

| | |
|---|---|
| Parameter : | EC50 ( 1-PROPANOL ; CAS No. : 71-23-8 ) |
| Species : | Scenedesmus subspicatus |
| Evaluation parameter : | Inhibition of growth rate |
| Effective dose : | 3100 mg/l |
| Exposure time : | 168 h |
| Parameter : | EC50 ( PROPAN-2-OL ; CAS No. : 67-63-0 ) |
| Species : | Pseudokirchneriella subcapitata |
| Evaluation parameter : | Acute (short-term) algae toxicity |
| Effective dose : | > 1000 mg/l |
| Exposure time : | 72 h |
| Parameter : | EC50 ( PROPAN-2-OL ; CAS No. : 67-63-0 ) |
| Species : | Scenedesmus subspicatus |
| Evaluation parameter : | Acute (short-term) algae toxicity |
| Effective dose : | > 100 mg/l |
| Exposure time : | 72 h |

| | |
|---|---|
| Parameter : | EC50 ( ETHANOL ; CAS No. : 64-17-5 ) |
| Species : | Chlorella vulgaris |
| Evaluation parameter : | Acute (short-term) algae toxicity |
| Effective dose : | 275 mg/l |
| Parameter : | EC50 ( ETHANOL ; CAS No. : 64-17-5 ) |
| Species : | Selenastrum capricornutum |
| Evaluation parameter : | Acute (short-term) algae toxicity |
| Effective dose : | 440 mg/l |
| Parameter : | IC50 ( ETHANOL ; CAS No. : 64-17-5 ) |
| Species : | Scenedesmus subspicatus |
| Evaluation parameter : | Acute (short-term) algae toxicity |
| Effective dose : | > 100 mg/l |

**Bacteria toxicity**

| | |
|---|---|
| Parameter : | EC50 ( 1-PROPANOL ; CAS No. : 71-23-8 ) |
| Species : | Pseudomonas putida |
| Evaluation parameter : | Bacteria toxicity |
| Effective dose : | 2700 mg/l |
| Exposure time : | 16 h |
| Parameter : | EC10 ( PROPAN-2-OL ; CAS No. : 67-63-0 ) |
| Species : | Pseudomonas putida |
| Evaluation parameter : | Bacteria toxicity |
| Effective dose : | 5175 mg/l |
| Exposure time : | 18 h |

### 12.2 Persistence and degradability

#### Abiotic degradation

No data available.

#### Biodegradation

The product is easily biodegradable according to OECD criteria. Methode : OECD 301 D.

### 12.3 Bioaccumulative potential

No information available.

### 12.4 Mobility in soil

#### Known or predicted distribution to environmental compartments

There are no data available on the preparation itself.

### 12.5 Results of PBT and vPvB assessment

No information available.

### 12.6 Other adverse effects

No information available.

### 12.7 Further ecological information

Prevent from flowing into surface water/ground water.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product/Packaging disposal

**Waste codes / waste designations according to EWC**

**Waste code product**

Concentrate/larger quantities: 18 01 06* (disinfectant).

**Waste treatment options**

**Appropriate disposal / Product**

Dispose according to legislation. Consult the appropriate local waste disposal expert about waste disposal.

**Appropriate disposal / Package**

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

## SECTION 14: Transport information

### 14.1 UN number
UN 1987

### 14.2 UN proper shipping name
**Land transport (ADR/RID)**
ALCOHOLS, N.O.S. ( N-PROPANOL · ETHANOL)

**Sea transport (IMDG)**
ALCOHOLS, N.O.S. ( N-PROPANOL · ETHANOL )

**Air transport (ICAO-TI / IATA-DGR)**
ALCOHOLS, N.O.S. ( N-PROPANOL · ETHANOL )

### 14.3 Transport hazard class(es)
**Land transport (ADR/RID)**

| | |
|---|---|
| **Class(es) :** | 3 |
| **Classification code :** | F1 |
| **Hazard identification number (Kemler No.) :** | 30 |
| **Tunnel restriction code :** | D/E |
| **Special provisions :** | LQ 5 l · LQ 7 · E 1 |
| **Hazard label(s) :** | 3 |

**Sea transport (IMDG)**

| | |
|---|---|
| **Class(es) :** | 3 |
| **EmS-No. :** | F-E / S-D |
| **Special provisions :** | LQ 5 l · E 1 |
| **Hazard label(s) :** | 3 |

**Air transport (ICAO-TI / IATA-DGR)**

| | |
|---|---|
| **Class(es) :** | 3 |
| **Special provisions :** | E 1 |
| **Hazard label(s) :** | 3 |

### 14.4 Packing group
III

### 14.5 Environmental hazards
**Land transport (ADR/RID) :** No
**Sea transport (IMDG) :** No
**Air transport (ICAO-TI / IATA-DGR) :** No

### 14.6 Special precautions for user
None

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not applicable

## SECTION 15: Regulatory information

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

**Restrictions of occupation**

According to directive 94/33/EC, juveniles are only allowed to handle this product as long as all effects of dangerous substances are prevented.

### 15.2 Chemical Safety Assessment

For this mixture a chemical safety assessment has not been carried out.

## SECTION 16: Other information

### 16.1 Indication of changes

02. Labelling according to Regulation (EC) No. 1272/2008 [CLP] · 03. Hazardous ingredients · 08. Occupational exposure limit values

### 16.2 Abbreviations and acronyms

ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimates
CAS = Chemical Abstracts Service
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
CMR = Carcinogen, Mutagen or Reproductive toxicant
$CO_2$ = Carbon dioxide
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EC = European Commission
EC50 = Half maximal effective concentration
EN = European Standard (Norm)
EU = European Union
EUH statement = CLP-specific Hazard statement
EWC = European Waste Catalogue
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
H statement = GHS Hazard statement
IATA = International Air Transport Association ICAO-TI = International Civil Aviation Organization-Technical Instructions
IMDG = International Maritime Dangerous Goods
LC50 = Median lethal concentration
LD50 = Median lethal dose
LogPow = Logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
NOEC/NOEL = No observed effect concentration/level
OECD = Organisation for Economic Co-operation and Development
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation [Regulation (EC) No. 1907/2006]
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
RMM = Risk Management Measure
RRN = REACH Registration Number
STOT-RE = Specific Target Organ Toxicity - Repeated Exposure
STOT-SE = Specific Target Organ Toxicity - Single Exposure
SVHC = Substances of Very High Concern
TLV/STEL = Threshold limit value/short-term exposure limit
TLV/TWA = Threshold limit value/time weighted average
UN = United Nations
VOC = Volatile Organic Compound
vPvB = Very Persistent and Very Bioaccumulative

### 16.3 Key literature references and sources for data

None

### 16.4 Classification for mixtures and used evaluation method according to regulation (EC) 1207/2008 [CLP]

The classification was carried out according to the calculation method of Regulation No. (EC) 1272/2008 [CLP] as well as in-house investigations.

### 16.4 Relevant R-, H- and EUH-phrases (Number and full text)

| | |
|---|---|
| H225 | Highly flammable liquid and vapour. |

| | |
|---|---|
| H226 | Flammable liquid and vapour. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H336 | May cause drowsiness or dizziness. |
| 10 | Flammable. |
| 11 | Highly flammable. |
| 36 | Irritating to eyes. |
| 41 | Risk of serious damage to eyes. |
| 67 | Vapours may cause drowsiness and dizziness. |

### 16.5 Training advice

None

### 16.6 Additional information

Notice the directions for use on the label.
Dr. Klaus-Michael Wolf Tel. No.: +49 7154 1308-27 · Fax. No.: +49 7154 1308-40 · info@orochemie.de
Dipl. Ing. Elisabeth Gehring Tel. No.: +49 7154 1308-37

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

# W & H Service Oil F1 MD 500

Version 2.0 Revision Date 20.03.2014 Print Date 21.03.2014

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

### 1.1 Product identifier

Product name : W & H Service Oil F1 MD 500

Article-No. : 028073

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

Use of the Substance/Mixture : Lubricating oil

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

KLÜBER LUBRICATION MÜNCHEN
Geisenhausenerstrasse 7
D-81379 München
Deutschland
Tel: +49 (0) 897876-0
Fax: +49 (0) 897876-333

E-mail address : mcm@klueber.com
Responsible/issuing person Material Compliance Management

National contact : Klüber Lubrication Great Britain Ltd.
Hough Mills, Northowram
Halifax, HX3 7BN
Great Britain
Tel: +44-1422-205115
Fax: +44-1422-206073
sales@uk.klueber.com

### 1.4 Emergency telephone number

0049 (0) 897876-700 (24hrs)

## 2. Hazards identification

### 2.1 Classification of the substance or mixture

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

Not a hazardous substance or mixture.

**Classification (67/548/EEC, 1999/45/EC)**

Not a hazardous substance or mixture.

### 2.2 Label elements

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

Not a hazardous substance or mixture.

**Additional Labelling:**

EUH210 Safety data sheet available on request.

**2.3 Other hazards**

## 3. Composition/information on ingredients

**3.2 Mixtures**

Chemical nature : Synthetic hydrocarbon oil
ester oil

**Hazardous components**

| Chemical Name | CAS-No.<br>EC-No.<br>Index-No.<br>Registration number | Classification (67/548/EEC) | Classification (REGULATION (EC) No 1272/2008) | Concentration [%] |
|---|---|---|---|---|
| Dec-1-ene, dimers, hydrogenated | 68649-11-6 | Xn; R20<br>Xn; R65 | Acute Tox. 4; H332<br>Asp. Tox. 1; H304 | >= 1 - < 10 |

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

## 4. First aid measures

**4.1 Description of first aid measures**

If inhaled : Remove person to fresh air. If signs/symptoms continue, get medical attention.
Keep patient warm and at rest.
If unconscious place in recovery position and seek medical advice.
Keep respiratory tract clear.
If breathing is irregular or stopped, administer artificial respiration.

In case of skin contact : Take off all contaminated clothing immediately.
Wash off immediately with soap and plenty of water.
Get medical attention immediately if irritation develops and persists.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.

In case of eye contact : If eye irritation persists, consult a specialist.
Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes.

If swallowed : If unconscious place in recovery position and seek medical advice.
Keep respiratory tract clear.
Do NOT induce vomiting.
Do not give anything to drink.
Never give anything by mouth to an unconscious person.
Get medical attention if symptoms occur.

: Move the victim to fresh air.

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

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

## 5. Firefighting measures

**5.1 Extinguishing media**

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : none

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

Specific hazards during firefighting : Fire may cause evolution of:
Carbon oxides

**5.3 Advice for firefighters**

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.
In the case of respirable dust and/or fumes, use self-contained breathing apparatus.
Exposure to decomposition products may be a hazard to health.

Further information : Standard procedure for chemical fires.

## 6. Accidental release measures

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

Personal precautions : Evacuate personnel to safe areas.
Use personal protective equipment.
Ensure adequate ventilation.
Do not breathe vapours or spray mist.
Refer to protective measures listed in sections 7 and 8.

**6.2 Environmental precautions**

Environmental precautions : Try to prevent the material from entering drains or water courses.
Prevent further leakage or spillage if safe to do so.
Local authorities should be advised if significant spillages cannot be contained.

**6.3 Methods and materials for containment and cleaning up**

Methods for cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

### 6.4 Reference to other sections

## 7. Handling and storage

### 7.1 Precautions for safe handling

Advice on safe handling : Do not breathe vapours or spray mist.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Wash hands and face before breaks and immediately after handling the product.
Do not get in eyes or mouth or on skin.
Do not get on skin or clothing.
Do not ingest.
Do not repack.
Do not re-use empty containers.
These safety instructions also apply to empty packaging which may still contain product residues.
Keep container closed when not in use.
Avoid inhalation of vapour or mist.

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

Requirements for storage areas and containers : Store in original container.
Keep container closed when not in use.
Keep in a dry, cool and well-ventilated place.
To maintain product quality, do not store in heat or direct sunlight.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Store in accordance with the particular national regulations.
Keep in properly labelled containers.

### 7.3 Specific end use(s)

## 8. Exposure controls/personal protection

### 8.1 Control parameters

Contains no substances with occupational exposure limit values.

DNEL
Dec-1-ene, dimers, hydrogenated : End Use: Industrial use
Exposure routes: Inhalation
Potential health effects: Acute systemic effects
Value: 60 mg/m3

### 8.2 Exposure controls

**Engineering measures**

Maintain air concentrations below occupational exposure standards.
It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment.
Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

**Personal protective equipment**

| | | |
|---|---|---|
| Respiratory protection | : | In the case of vapour formation use a respirator with an approved filter. |
| Hand protection | : | For prolonged or repeated contact use protective gloves.<br>The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.<br>The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other.<br>The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. |
| Eye protection | : | Safety glasses with side-shields conforming to EN166 |
| Hygiene measures | : | Wash face, hands and any exposed skin thoroughly after handling. |
| Protective measures | : | The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.<br>Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. |

**Environmental exposure controls**

| | | |
|---|---|---|
| General advice | : | Try to prevent the material from entering drains or water courses.<br>Prevent further leakage or spillage if safe to do so.<br>Local authorities should be advised if significant spillages cannot be contained. |

## 9. Physical and chemical properties

The data/values refer to the main component.

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

| | | |
|---|---|---|
| Appearance | : | liquid |
| Colour | : | yellow |
| Odour | : | characteristic |

| | | |
|---|---|---|
| Odour Threshold | : | No data available |
| pH | : | No data available |
| Melting point/range | : | No data available |
| Boiling point/boiling range | : | No data available |
| Flash point | : | > 200 °C, Test Method: open cup, ISO 2592 |
| Evaporation rate | : | No data available |
| Flammability (solid, gas) | : | No data available |
| Lower explosion limit | : | No data available |
| Upper explosion limit | : | No data available |
| Vapour pressure | : | < 0.17 hPa, 20 °C |
| Relative vapour density | : | No data available |
| Density | : | 0.84 g/cm3, 20 °C |
| Water solubility | : | insoluble |
| Solubility in other solvents | : | No data available |
| Partition coefficient: n-octanol/water | : | No data available |
| Auto-ignition temperature | : | No data available |
| Ignition temperature | : | No data available |
| Viscosity, dynamic | : | No data available |
| Viscosity, kinematic | : | 22 mm2/s, 40 °C |
| Oxidizing properties | : | No data available |

### 9.2 Other information

| | | |
|---|---|---|
| Sublimation point | : | No data available |
| Bulk density | : | No data available |

## 10. Stability and reactivity

### 10.1 Reactivity

### 10.2 Chemical stability

No decomposition if stored and applied as directed.

### 10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

### 10.4 Conditions to avoid

Conditions to avoid : No conditions to be specially mentioned.

### 10.5 Incompatible materials

Materials to avoid : No materials to be especially mentioned.

### 10.6 Hazardous decomposition products

## 11. Toxicological information

### 11.1 Information on toxicological effects

**Product**

| | | |
|---|---|---|
| Acute oral toxicity | : | This information is not available. |
| Acute inhalation toxicity | : | Acute toxicity estimate: > 5 mg/l, 4 h, dust/mist, Calculation method |
| Skin corrosion/irritation | : | This information is not available. |
| Serious eye damage/eye irritation | : | This information is not available. |
| Respiratory or skin sensitisation | : | This information is not available. |
| Carcinogenicity | : | No data available |
| Reproductive toxicity | : | No data available |
| Teratogenicity | : | No data available |
| Repeated dose toxicity | : | This information is not available. |
| Aspiration toxicity | : | This information is not available. |
| Further information | : | Information given is based on data on the components and the toxicology of similar products. |

**Components:**

**Dec-1-ene, dimers, hydrogenated :**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50: > 5,000 mg/kg, rat, OECD Test Guideline 401, GLP: yes |
| Acute inhalation toxicity | : | LC50: 1.17 mg/l, 4 h, rat, dust/mist, OECD Test Guideline 403, GLP: yes |
| Acute dermal toxicity | : | LD50: > 3,000 mg/kg, rabbit, OECD Test Guideline 402 |
| Skin corrosion/irritation | : | rabbit, Result: No skin irritation, Classification: No skin irritation, OECD Test Guideline 404 |
| Serious eye damage/eye irritation | : | rabbit, Result: No eye irritation, Classification: No eye irritation, OECD Test Guideline 405 |
| Respiratory or skin sensitisation | : | Maximisation Test (GPMT), guinea pig, Result: Does not cause skin sensitisation., Classification: Does not cause skin sensitisation., OECD Test Guideline 406, GLP: yes |
| Aspiration toxicity | : | May be fatal if swallowed and enters airways. |

## 12. Ecological information

### 12.1 Toxicity

**Product:**

| | | |
|---|---|---|
| Toxicity to fish | : | No data available |
| Toxicity to daphnia and other aquatic invertebrates | : | No data available |
| Toxicity to algae | : | No data available |
| Toxicity to bacteria | : | No data available |

**Components:**

**Dec-1-ene, dimers, hydrogenated :**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50: > 1,000 mg/l, 96 h, Oncorhynchus mykiss (rainbow trout), semi-static test, OECD Test Guideline 203, GLP: yes |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50: > 1,000 mg/l, 48 h, Daphnia magna (Water flea), Immobilization, OECD Test Guideline 202, GLP: yes |
| Toxicity to algae | : | EC50: > 1,000 mg/l, 72 h, Scenedesmus capricornutum (fresh water algae), static test, OECD Test Guideline 201, GLP: yes |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC: 125 mg/l, 21 d, Daphnia magna (Water flea), OECD Test Guideline 211, GLP: yes |

### 12.2 Persistence and degradability

**Product:**

| | | |
|---|---|---|
| Biodegradability | : | No data available |
| Physico-chemical removability | : | No data available |

**Components:**

**Dec-1-ene, dimers, hydrogenated :**

| | | |
|---|---|---|
| Biodegradability | : | Result: not rapidly biodegradable |

### 12.3 Bioaccumulative potential

**Product:**

| | | |
|---|---|---|
| Bioaccumulation | : | This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT)., This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB). |

### 12.4 Mobility in soil

**Product:**

| | | |
|---|---|---|
| Mobility | : | No data available |
| Distribution among environmental compartments | : | No data available |

### 12.5 Results of PBT and vPvB assessment

**Product:**

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**Components:**

**Dec-1-ene, dimers, hydrogenated :**

Assessment : This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)., This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

**12.6 Other adverse effects**

## 13. Disposal considerations

**13.1 Waste treatment methods**

Product : The product should not be allowed to enter drains, water courses or the soil.

: Waste codes should be assigned by the user based on the application for which the product was used.

Contaminated packaging : Empty containers can be landfilled, when in accordance with the local regulations.

## 14. Transport information

**14.1 UN number**

**ADR**
Not dangerous goods
**IMDG**
Not dangerous goods
**IATA**
Not dangerous goods

**14.2 Proper shipping name**

**ADR**
Not dangerous goods
**IMDG**
Not dangerous goods
**IATA**
Not dangerous goods

**14.3 Transport hazard class**

**ADR**
Not dangerous goods
**IMDG**
Not dangerous goods
**IATA**
Not dangerous goods

**14.4 Packing group**

**ADR**
Not dangerous goods
**IMDG**
Not dangerous goods
**IATA**
Not dangerous goods

**14.5 Environmental hazards**
**ADR**
Not dangerous goods
**IMDG**
Not dangerous goods
**IATA**
Not dangerous goods

**14.6 Special precautions for user**
No data available

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
Not available

## 15. Regulatory information

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

| | | |
|---|---|---|
| REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). | : | This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57). |
| Major Accident Hazard Legislation | : | 96/82/EC Update: not applicable |

**15.2 Chemical Safety Assessment**
This information is not available.

## 16. Other information

**Full text of R-phrases referred to under sections 2 and 3**

| | |
|---|---|
| R20 | Harmful by inhalation. |
| R65 | Harmful: may cause lung damage if swallowed. |

**Full text of H-Statements referred to under sections 2 and 3.**

| | |
|---|---|
| H304 | May be fatal if swallowed and enters airways. |
| H332 | Harmful if inhaled. |

This safety datasheet applies only to products originally packaged and labelled by KLÜBER LUBRICATION. The information contained therein is protected by copyright and must not be reproduced or amended without the express written approval of KLÜBER LUBRICATION. This document may be passed on only to the extent required by law. Any dissemination of our

safety datasheets (e.g. as a document for download from the Internet) beyond this legally required extent is not permitted without express written consent. KLÜBER LUBRICATION provides its customers with amended safety datasheets as prescribed by law. The customer is responsible for passing on safety datasheets and any amendments contained therein to its own customers, employees and other users of the product. KLÜBER LUBRICATION provides no guarantee that safety datasheets received by users from third parties are up-to-date. All information and instructions in this safety datasheets were compiled to the best of our knowledge and are based on the information available to us. The data provided are intended to describe the product in relation to the required safety measures; they are neither an assurance of characteristics nor a guarantee of the product's suitability for particular applications and do not justify any contractual legal relationships.