

**Safety Data Sheet**

according to UK REACH Regulation

**938 Injector Intensive Cleaner MF93800500AB**

Revision date: 12.01.2022

Product code: 1102349

Page 1 of 18

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

938 Injector Intensive Cleaner MF93800500AB

UFI: 96S3-10WX-800Y-S39V

**1.2. Relevant identified uses of the substance or mixture and uses advised against****Use of the substance/mixture**

Cleaner

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

Company name: TUNAP GmbH & Co. KG  
Street: Buergermeister-Seidl-Strasse 2  
Place: D-82515 Wolfratshausen  
Telephone: +49 (0) 8171/1600-0      Telefax: +49 (0) 8171/1600-40  
e-mail: sdb@tunap.com  
Internet: www.tunap.com

**1.4. Emergency telephone number:** 111 NHS (National Health Service)

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****GB CLP Regulation**

Aerosol 1; H222-H229  
Asp. Tox. 1; H304  
Eye Dam. 1; H318  
Skin Sens. 1; H317  
STOT SE 3; H336  
Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

**2.2. Label elements****GB CLP Regulation****Hazard components for labelling**

n-propanol  
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics  
(R)-p-mentha-1,8-diene, d-limonene  
Hydrocarbons, C10, aromatics, <1% naphthalene

**Signal word:** Danger

**Pictograms:****Hazard statements**

H222 Extremely flammable aerosol.  
H229 Pressurised container: May burst if heated.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H336 May cause drowsiness or dizziness.  
H411 Toxic to aquatic life with long lasting effects.

**Safety Data Sheet**

according to UK REACH Regulation

**938 Injector Intensive Cleaner MF93800500AB**

Revision date: 12.01.2022

Product code: 1102349

Page 2 of 18

**Precautionary statements**

|                |  |
|----------------|--|
| P210           | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.                                   |
| P211           | Do not spray on an open flame or other ignition source.  |
| P251           | Do not pierce or burn, even after use.   |
| P280           | Wear protective gloves and eye/face protection.  |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P310           | Immediately call a POISON CENTER/doctor.   |
| P302+P352      | IF ON SKIN: Wash with plenty of water.   |
| P333+P313      | If skin irritation or rash occurs: Get medical advice/attention.   |
| P304+P312      | IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.   |
| P410+P412      | Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.   |

**Special labelling of certain mixtures**

|        |   |
|--------|---|
| EUH066 | Repeated exposure may cause skin dryness or cracking. |
|--------|---|

**2.3. Other hazards**

In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop. The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII. This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

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

**Safety Data Sheet**

according to UK REACH Regulation

**938 Injector Intensive Cleaner MF93800500AB**

Revision date: 12.01.2022

Product code: 1102349

Page 3 of 18

**Hazardous components**

| CAS No       | Chemical name  | Quantity     |                  |             |
|--------------|--|--------------|------------------|-------------|
|              | EC No  | Index No     | REACH No         |             |
|              | Classification (GB CLP Regulation)   |              |                  |             |
| 64742-48-9   | Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics   |              |                  | 25 - < 50 % |
|              | 918-481-9  |              | 01-2119457273-39 |             |
|              | Asp. Tox. 1; H304 EUH066   |              |                  |             |
| 71-23-8      | n-propanol   |              |                  | 10 - < 20 % |
|              | 200-746-9  | 603-003-00-0 | 01-2119486761-29 |             |
|              | Flam. Liq. 2, Eye Dam. 1, STOT SE 3; H225 H318 H336  |              |                  |             |
| 1174921-73-3 | Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics  |              |                  | 10 - < 20 % |
|              | 927-241-2  |              | 01-2119471843-32 |             |
|              | Flam. Liq. 3, STOT SE 3, Asp. Tox. 1, Aquatic Chronic 3; H226 H336 H304 H412 EUH066  |              |                  |             |
| 34590-94-8   | (2-methoxymethylethoxy)propanol  |              |                  | 5 - < 10 %  |
|              | 252-104-2  |              |                  |             |
|              |  |              |                  |             |
| 27247-96-7   | 2-Ethylhexyl nitrate   |              |                  | 3 - < 5 %   |
|              | 248-363-6  |              | 01-2119539586-27 |             |
|              | Acute Tox. 4, Acute Tox. 4, Acute Tox. 4, Aquatic Chronic 2; H332 H312 H302 H411 EUH044 EUH066                                   |              |                  |             |
| 5989-27-5    | (R)-p-mentha-1,8-diene, d-limonene   |              |                  | 1 - < 3 %   |
|              | 227-813-5  |              |                  |             |
|              | Flam. Liq. 3, Skin Irrit. 2, Skin Sens. 1, Asp. Tox. 1, Aquatic Acute 1, Aquatic Chronic 1; H226 H315 H317 H304 H400 H410        |              |                  |             |
| 104-76-7     | 2-Ethylhexan-1-ol  |              |                  | 1 - < 3 %   |
|              | 203-234-3  |              | 01-2119487289-20 |             |
|              | Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3; H332 H315 H319 H335  |              |                  |             |
| 110-91-8     | morpholine   |              |                  | 0.1 - < 1 % |
|              | 203-815-1  |              | 01-2119496057-30 |             |
|              | Flam. Liq. 3, Repr. 2, Acute Tox. 3, Acute Tox. 3, Acute Tox. 4, Skin Corr. 1B, Eye Dam. 1; H226 H361fd H331 H311 H302 H314 H318 |              |                  |             |

Full text of H and EUH statements: see section 16.

**Safety Data Sheet**

according to UK REACH Regulation

**938 Injector Intensive Cleaner MF93800500AB**

Revision date: 12.01.2022

Product code: 1102349

Page 4 of 18

**Specific Conc. Limits, M-factors and ATE**

| CAS No       | EC No     | Chemical name   | Quantity    |
|--------------|-----------|---|-------------|
|              |           | Specific Conc. Limits, M-factors and ATE  |             |
| 64742-48-9   | 918-481-9 | Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics  | 25 - < 50 % |
|              |           | inhalation: LC50 = 4951 mg/l (vapours); dermal: LD50 = >3160 mg/kg; oral: LD50 = >8000 mg/kg  |             |
| 71-23-8      | 200-746-9 | n-propanol  | 10 - < 20 % |
|              |           | inhalation: LC50 = > 33,8 mg/l (vapours); dermal: LD50 = 4032 mg/kg; oral: LD50 = 8000 mg/kg  |             |
| 1174921-73-3 | 927-241-2 | Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics   | 10 - < 20 % |
|              |           | inhalation: LC50 = > 4951 mg/l (vapours); dermal: LD50 = > 5000 mg/kg; oral: LD50 = > 15000 mg/kg   |             |
| 34590-94-8   | 252-104-2 | (2-methoxymethylethoxy)propanol   | 5 - < 10 %  |
|              |           | inhalation: LC50 = 500 mg/l (vapours); inhalation: LC50 = 500 ppm (gases); dermal: LD50 = 13000 mg/kg; oral: LD50 = 5135 mg/kg              |             |
| 27247-96-7   | 248-363-6 | 2-Ethylhexyl nitrate  | 3 - < 5 %   |
|              |           | inhalation: LC50 = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: LD50 = >4820 mg/kg; oral: LD50 = >9640 mg/kg     |             |
| 5989-27-5    | 227-813-5 | (R)-p-mentha-1,8-diene, d-limonene  | 1 - < 3 %   |
|              |           | dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 2000 mg/kg  |             |
| 104-76-7     | 203-234-3 | 2-Ethylhexan-1-ol   | 1 - < 3 %   |
|              |           | inhalation: LC50 = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: LD50 = > 3000 mg/kg; oral: LD50 = 2047 mg/kg     |             |
| 110-91-8     | 203-815-1 | morpholine  | 0.1 - < 1 % |
|              |           | inhalation: LC50 = 8 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: LD50 = ca. 500 mg/kg; oral: LD50 = ca. 1900 mg/kg |             |

**SECTION 4: First aid measures****4.1. Description of first aid measures****General information**

First aider: Pay attention to self-protection! Remove persons to safety. Never give anything by mouth to an unconscious person or a person with cramps.

**After inhalation**

Remove person to fresh air and keep comfortable for breathing. In all cases of doubt, or when symptoms persist, seek medical advice.

**After contact with skin**

Wash with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. In all cases of doubt, or when symptoms persist, seek medical advice.

**After contact with eyes**

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. In case of troubles or persistent symptoms, consult an ophthalmologist.

**After ingestion**

Do NOT induce vomiting. Observe risk of aspiration if vomiting occurs. Call a physician in any case!

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

Headache, nausea, dizziness, fatigue, skin irritation

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

Treat symptomatically. Call a POISON CENTER. Symptoms can occur only after several hours.



## Safety Data Sheet

according to UK REACH Regulation

### 938 Injector Intensive Cleaner MF93800500AB

Revision date: 12.01.2022

Product code: 1102349

Page 5 of 18

#### SECTION 5: Firefighting measures

##### 5.1. Extinguishing media

###### **Suitable extinguishing media**

Water fog. Foam. Carbon dioxide (CO<sub>2</sub>). Extinguishing powder.

###### **Unsuitable extinguishing media**

Full water jet

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

Incomplete combustion and thermolysis gases of different toxicity can occur. In the case of hydrocarbonaceous products such as CO, CO<sub>2</sub>, aldehydes and soot. These can be very dangerous if they are inhaled in high concentrations or in enclosed spaces.

##### 5.3. Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Move undamaged containers from immediate hazard area if it can be done safely. In case of fire: Wear self-contained breathing apparatus.

###### **Additional information**

Danger of bursting container.

#### SECTION 6: Accidental release measures

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

###### **General advice**

Wear breathing apparatus if exposed to vapours/dusts/aerosols. Remove all sources of ignition. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Wear personal protection equipment.

##### 6.2. Environmental precautions

Do not allow to enter into surface water or drains. Prevent spread over a wide area (e.g. by containment or oil barriers). Ensure all waste water is collected and treated via a waste water treatment plant.

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

###### **Other information**

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Clean contaminated articles and floor according to the environmental legislation.

##### 6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

#### SECTION 7: Handling and storage

##### 7.1. Precautions for safe handling

###### **Advice on safe handling**

Observe instructions for use.

Dust must be exhausted directly at the point of origin. Vapours/aerosols must be exhausted directly at the point of origin. If local exhaust ventilation is not possible or not sufficient, the entire working area should be ventilated by technical means.

When using do not eat, drink, smoke, sniff.

Wear personal protection equipment (refer to section 8).

In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.

###### **Advice on protection against fire and explosion**

Keep away from sources of ignition - No smoking. Heating causes rise in pressure with risk of bursting.

**Safety Data Sheet**

according to UK REACH Regulation

**938 Injector Intensive Cleaner MF93800500AB**

Revision date: 12.01.2022

Product code: 1102349

Page 6 of 18

**Advice on general occupational hygiene**

Avoid exposure. Wear suitable protective clothing. Draw up and observe skin protection programme.

**Further information on handling**

Avoid contact with skin and eyes.

**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep container tightly closed. Observe legal regulations and provisions.

**Hints on joint storage**

Do not store together with: Oxidizing agents. Pyrophoric or self-heating substances. Food and feedingstuffs.

**Further information on storage conditions**

Protect from frost. Protect from direct sunlight. Store in a cool dry place. Observe legal regulations and provisions.

**7.3. Specific end use(s)**

No information available.

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Exposure limits (EH40)**

| CAS No     | Substance                        | ppm | mg/m <sup>3</sup> | fibres/ml | Category      | Origin |
|------------|----------------------------------|-----|-------------------|-----------|---------------|--------|
| 34590-94-8 | (2-methoxymethylethoxy) propanol | 50  | 308               |           | TWA (8 h)     | WEL    |
| 104-76-7   | 2-ethylhexan-1-ol                | 1   | 5.4               |           | TWA (8 h)     | WEL    |
| 110-91-8   | Morpholine                       | 10  | 36                |           | TWA (8 h)     | WEL    |
|            |                                  | 20  | 72                |           | STEL (15 min) | WEL    |
| 71-23-8    | Propan-1-ol                      | 200 | 500               |           | TWA (8 h)     | WEL    |
|            |                                  | 250 | 625               |           | STEL (15 min) | WEL    |

**Safety Data Sheet**

according to UK REACH Regulation

**938 Injector Intensive Cleaner MF93800500AB**

Revision date: 12.01.2022

Product code: 1102349

Page 7 of 18

**DNEL/DMEL values**

| CAS No                   | Substance   | Exposure route | Effect   | Value                  |
|--------------------------|---|----------------|----------|------------------------|
| 1174921-73-3             | Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics |                |          |                        |
| Worker DNEL, long-term   |   | inhalation     | systemic | 871 mg/m <sup>3</sup>  |
| Worker DNEL, long-term   |   | dermal         | systemic | 77 mg/kg bw/day        |
| Consumer DNEL, long-term |   | inhalation     | systemic | 185 mg/m <sup>3</sup>  |
| Consumer DNEL, long-term |   | dermal         | systemic | 46 mg/kg bw/day        |
| Consumer DNEL, long-term |   | oral           | systemic | 46 mg/kg bw/day        |
| 27247-96-7               | 2-Ethylhexyl nitrate  |                |          |                        |
| Worker DNEL, long-term   |   | inhalation     | systemic | 0,35 mg/m <sup>3</sup> |
| Worker DNEL, long-term   |   | dermal         | systemic | 1 mg/kg bw/day         |
| Consumer DNEL, long-term |   | dermal         | systemic | 0,52 mg/kg bw/day      |
| Consumer DNEL, long-term |   | oral           | systemic | 0,025 mg/kg bw/day     |
| 110-91-8                 | morpholine  |                |          |                        |
| Worker DNEL, long-term   |   | inhalation     | systemic | 91 mg/m <sup>3</sup>   |
| Worker DNEL, long-term   |   | inhalation     | local    | 36 mg/m <sup>3</sup>   |
| Worker DNEL, acute       |   | inhalation     | local    | 72 mg/m <sup>3</sup>   |
| Worker DNEL, long-term   |   | dermal         | systemic | 1,04 mg/kg bw/day      |
| Consumer DNEL, long-term |   | oral           | systemic | 6,3 mg/kg bw/day       |

**PNEC values**

| CAS No   | Substance            | Value          |
|--|----------------------|----------------|
| 27247-96-7                                       | 2-Ethylhexyl nitrate |                |
| Freshwater                                       |                      | 0,0008 mg/l    |
| Marine water                                     |                      | 0,00008 mg/l   |
| Freshwater sediment                              |                      | 0,00074 mg/kg  |
| Marine sediment                                  |                      | 0,00074 mg/kg  |
| Micro-organisms in sewage treatment plants (STP) |                      | 10 mg/l        |
| Soil   |                      | 0,000191 mg/kg |
| 110-91-8   | morpholine           |                |
| Freshwater                                       |                      | 0,163 mg/l     |
| Freshwater (intermittent releases)               |                      | 0,09 mg/l      |
| Marine water                                     |                      | 0,016 mg/l     |
| Freshwater sediment                              |                      | 1,83 mg/kg     |
| Marine sediment                                  |                      | 0,183 mg/kg    |
| Micro-organisms in sewage treatment plants (STP) |                      | 10 mg/l        |
| Soil   |                      | 0,269 mg/kg    |

**Additional advice on limit values**

a no restriction



## Safety Data Sheet

according to UK REACH Regulation

### 938 Injector Intensive Cleaner MF93800500AB

Revision date: 12.01.2022

Product code: 1102349

Page 8 of 18

- b End of exposure or end of shift
- c at long-term exposure:
- d before next shift

blood (B)  
Urine (U)

#### **8.2. Exposure controls**

##### **Appropriate engineering controls**

If handled uncovered, arrangements with local exhaust ventilation have to be used.

##### **Individual protection measures, such as personal protective equipment**

###### **Eye/face protection**

Suitable eye protection: Tightly sealed safety glasses.  
EN 166

###### **Hand protection**

Protect skin by using skin protective cream. When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.  
Suitable material: NBR (Nitrile rubber) Breakthrough time: 480min  
Thickness of the glove material 0,45 mm  
EN ISO 374

###### **Skin protection**

Wear suitable protective clothing. Take off immediately all contaminated clothing and wash it before reuse.

###### **Respiratory protection**

Wear breathing apparatus if exposed to vapours/dusts/aerosols.  
When exceeding the relevant workplace exposure limits, note the following:  
Suitable respiratory protective equipment: Combination filter device (DIN EN 141)..  
Filtering device with filter or ventilator filtering device of type: A  
Observe the wear time limits as specified by the manufacturer.  
Observe legal regulations and provisions.

###### **Environmental exposure controls**

Observe legal regulations and provisions.

## **SECTION 9: Physical and chemical properties**

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

|                 |                |
|-----------------|----------------|
| Physical state: | Aerosol        |
| Colour:         | yellow-brown   |
| Odour:          | characteristic |

#### **Test method**

##### **Changes in the physical state**

|   |                |
|---|----------------|
| Melting point/freezing point:                             | not determined |
| Boiling point or initial boiling point and boiling range: | 97 °C          |
| Sublimation point:  | not applicable |
| Softening point:  | not applicable |
| Pour point:   | not determined |
| Flash point:  | 26 °C          |

##### **Flammability**

|               |                |
|---------------|----------------|
| Solid/liquid: | not applicable |
|---------------|----------------|



**Safety Data Sheet**

according to UK REACH Regulation

**938 Injector Intensive Cleaner MF93800500AB**

Revision date: 12.01.2022

Product code: 1102349

Page 9 of 18

|  |                                   |
|--|-----------------------------------|
| Gas:                                   | not applicable                    |
| Lower explosion limits:                | 0,5                               |
| Upper explosion limits:                | 13,5                              |
| Auto-ignition temperature:             | > 200 °C                          |
| <b>Self-ignition temperature</b>       |                                   |
| Solid:                                 | not applicable                    |
| Gas:                                   | not applicable                    |
| Decomposition temperature:             | not determined                    |
| pH-Value (at 20 °C):                   | not determined DIN 19268          |
| Viscosity / kinematic:                 | < 20,5 mm <sup>2</sup> /s         |
| Water solubility:                      | insoluble                         |
| <b>Solubility in other solvents</b>    |                                   |
| not determined                         |                                   |
| Partition coefficient n-octanol/water: | not determined                    |
| Vapour pressure:                       | not determined                    |
| Density (at 20 °C):                    | 0,815 g/cm <sup>3</sup> DIN 51757 |
| Relative vapour density:               | not determined                    |

**9.2. Other information****Information with regard to physical hazard classes**

|                        |                   |
|------------------------|-------------------|
| Sustaining combustion: | No data available |
| Oxidizing properties   |                   |
| Not oxidising.         |                   |

**Other safety characteristics**

|                   |                |
|-------------------|----------------|
| Solid content:    | not determined |
| Evaporation rate: | not determined |

**Further Information**

Data apply to technical substance: Relative density, Colour, Odour, Viscosity, pH.

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

Extremely flammable aerosol.

**10.2. Chemical stability**

The product is stable under normal conditions.

**10.3. Possibility of hazardous reactions**

Do not expose to temperatures above 50 °C. Heating causes rise in pressure with risk of bursting.

**10.4. Conditions to avoid**

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapours can form explosive mixtures with air. Take precautionary measures against static discharges.

**10.5. Incompatible materials**

Oxidizing agents. Pyrophoric or self-heating substances.

**10.6. Hazardous decomposition products**Incomplete combustion and thermolysis gases of different toxicity can occur. In the case of hydrocarbonaceous products such as CO, CO<sub>2</sub>, aldehydes and soot. These can be very dangerous if they are inhaled in high concentrations or in enclosed spaces.



## Safety Data Sheet

according to UK REACH Regulation

### 938 Injector Intensive Cleaner MF93800500AB

Revision date: 12.01.2022

Product code: 1102349

Page 10 of 18

#### Further information

Do not mix with other chemicals.

### SECTION 11: Toxicological information

#### 11.1. Information on hazard classes as defined in GB CLP Regulation

##### Toxicokinetics, metabolism and distribution

There are no data available on the mixture itself.

##### Acute toxicity

Based on available data, the classification criteria are not met.

**Safety Data Sheet**

according to UK REACH Regulation

**938 Injector Intensive Cleaner MF93800500AB**

Revision date: 12.01.2022

Product code: 1102349

Page 11 of 18

| CAS No       | Chemical name  |                    |           |                     |                    |
|--------------|--|--------------------|-----------|---------------------|--------------------|
|              | Exposure route   | Dose               | Species   | Source              | Method             |
| 64742-48-9   | Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics |                    |           |                     |                    |
|              | oral   | LD50 >8000 mg/kg   | Rat       |                     |                    |
|              | dermal   | LD50 >3160 mg/kg   | Rabbit    |                     |                    |
|              | inhalation (4 h) vapour  | LC50 4951 mg/l     | Rat       |                     |                    |
| 71-23-8      | n-propanol   |                    |           |                     |                    |
|              | oral   | LD50 8000 mg/kg    | Rat       |                     |                    |
|              | dermal   | LD50 4032 mg/kg    | Rabbit    |                     |                    |
|              | inhalation (4 h) vapour  | LC50 > 33,8 mg/l   | Rat       |                     |                    |
| 1174921-73-3 | Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics  |                    |           |                     |                    |
|              | oral   | LD50 > 15000 mg/kg | Rat       | Study report (1977) | OECD Guideline 423 |
|              | dermal   | LD50 > 5000 mg/kg  | Rabbit    | Study report (1993) | OECD Guideline 402 |
|              | inhalation (4 h) vapour  | LC50 > 4951 mg/l   | Rat       |                     |                    |
| 34590-94-8   | (2-methoxymethylethoxy)propanol                                      |                    |           |                     |                    |
|              | oral   | LD50 5135 mg/kg    | Rat       |                     |                    |
|              | dermal   | LD50 13000 mg/kg   | Rabbit    |                     |                    |
|              | inhalation vapour  | LC50 500 mg/l      | Rat       |                     |                    |
|              | inhalation gas   | LC50 500 ppm       | Rat       |                     |                    |
| 27247-96-7   | 2-Ethylhexyl nitrate   |                    |           |                     |                    |
|              | oral   | LD50 >9640 mg/kg   | Rat       |                     |                    |
|              | dermal   | LD50 >4820 mg/kg   | Rabbit    |                     |                    |
|              | inhalation (4 h) vapour  | LC50 11 mg/l       | Rat       |                     |                    |
|              | inhalation dust/mist   | ATE 1,5 mg/l       |           |                     |                    |
| 5989-27-5    | (R)-p-mentha-1,8-diene, d-limonene                                   |                    |           |                     |                    |
|              | oral   | LD50 > 2000 mg/kg  | Rat       | Study report (2010) | OECD Guideline 423 |
|              | dermal   | LD50 > 2000 mg/kg  | Kaninchen | IUCLID              |                    |
| 104-76-7     | 2-Ethylhexan-1-ol  |                    |           |                     |                    |
|              | oral   | LD50 2047 mg/kg    | Rat       |                     |                    |

**Safety Data Sheet**

according to UK REACH Regulation

**938 Injector Intensive Cleaner MF93800500AB**

Revision date: 12.01.2022

Product code: 1102349

Page 12 of 18

|          |                         |               |          |        |   |                    |
|----------|-------------------------|---------------|----------|--------|---|--------------------|
|          | dermal                  | LD50<br>mg/kg | > 3000   | Rat    |   |                    |
|          | inhalation (4 h) vapour | LC50          | 11 mg/l  | Rat    |   |                    |
|          | inhalation dust/mist    | ATE           | 1,5 mg/l |        |   |                    |
| 110-91-8 | morpholine              |               |          |        |   |                    |
|          | oral                    | LD50<br>mg/kg | ca. 1900 | Rat    | Study report (1967)                         | OECD Guideline 401 |
|          | dermal                  | LD50<br>mg/kg | ca. 500  | Rabbit | Arch. Ind. Hyg Occup.<br>Med. 10 61-68 (195 | OECD Guideline 402 |
|          | inhalation (4 h) vapour | LC50          | 8 mg/l   | Rat    |   |                    |
|          | inhalation dust/mist    | ATE           | 0,5 mg/l |        |   |                    |

**Irritation and corrosivity**

Causes serious eye damage.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

**Sensitising effects**

May cause an allergic skin reaction. ((R)-p-mentha-1,8-diene, d-limonene)

**Carcinogenic/mutagenic/toxic effects for reproduction**

Based on available data, the classification criteria are not met.

No indication of human carcinogenicity.

No indications of human germ cell mutagenicity exist.

No indications of human reproductive toxicity exist.

**STOT-single exposure**

May cause drowsiness or dizziness.

**STOT-repeated exposure**

Repeated exposure may cause skin dryness or cracking.

**Aspiration hazard**

May be fatal if swallowed and enters airways.

**Specific effects in experiment on an animal**

No information available.

**Additional information on tests**

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

**SECTION 12: Ecological information****12.1. Toxicity**

Toxic to aquatic life with long lasting effects.



## Safety Data Sheet

according to UK REACH Regulation

### 938 Injector Intensive Cleaner MF93800500AB

Revision date: 12.01.2022

Product code: 1102349

Page 13 of 18

| CAS No       | Chemical name  |                    |           |   |                                   |   |
|--------------|--|--------------------|-----------|---|-----------------------------------|---|
|              | Aquatic toxicity   | Dose               | [h]   [d] | Species   | Source                            | Method                                  |
| 64742-48-9   | Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics |                    |           |   |                                   |   |
|              | Acute fish toxicity  | LC50 >1000 mg/l    | 96 h      | Oncorhynchus mykiss (Rainbow trout)                 |                                   |   |
|              | Acute algae toxicity   | ErC50 >1000 mg/l   | 96 h      | Scenedesmus subspicatus                             |                                   |   |
|              | Acute crustacea toxicity   | EC50 >1000 mg/l    | 48 h      | Daphnia magna                                       |                                   |   |
| 71-23-8      | n-propanol   |                    |           |   |                                   |   |
|              | Acute fish toxicity  | LC50 4480 mg/l     | 96 h      | Pimephales promelas                                 |                                   |   |
| 1174921-73-3 | Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics  |                    |           |   |                                   |   |
|              | Acute fish toxicity  | LC50 >1000 mg/l    | 96 h      | Oncorhynchus mykiss (Rainbow trout)                 |                                   |   |
|              | Acute algae toxicity   | ErC50 >1000 mg/l   | 72 h      | Pseudokirchneriella subcapitata                     |                                   |   |
|              | Acute crustacea toxicity   | EC50 >1000 mg/l    | 48 h      | Daphnia magna                                       |                                   |   |
|              | Fish toxicity  | NOEC 0,182 mg/l    | 28 d      | Oncorhynchus mykiss                                 | CONCAWE, Brussels, Belgium (2010) | The aquatic toxicity was estimated by a |
|              | Crustacea toxicity   | NOEC 0,317 mg/l    | 21 d      | Daphnia magna                                       | Company report (2010)             | The aquatic toxicity was estimated by a |
| 34590-94-8   | (2-methoxymethylethoxy)propanol                                      |                    |           |   |                                   |   |
|              | Acute fish toxicity  | LC50 10000 mg/l    | 96 h      | Pimephales promelas                                 |                                   |   |
|              | Acute algae toxicity   | ErC50 969 mg/l     | 96 h      | Pseudokirchneriella subcapitata                     |                                   |   |
|              | Acute crustacea toxicity   | EC50 1919 mg/l     | 48 h      | Daphnia magna                                       |                                   |   |
| 27247-96-7   | 2-Ethylhexyl nitrate   |                    |           |   |                                   |   |
|              | Acute fish toxicity  | LC50 2 mg/l        | 96 h      | Danio rerio   | Study report (2010)               | OECD Guideline 203                      |
|              | Acute algae toxicity   | ErC50 > 12,6 mg/l  | 72 h      | Pseudokirchneriella subcapitata                     | Study report (1998)               | OECD Guideline 201                      |
|              | Acute crustacea toxicity   | EC50 > 12,6 mg/l   | 48 h      | Daphnia magna                                       | Study report (1998)               | OECD Guideline 202                      |
|              | Acute bacteria toxicity  | (EC50 > 1000 mg/l) | 3 h       | activated sludge of a predominantly domestic sewage | Study report (2010)               | OECD Guideline 209                      |
| 5989-27-5    | (R)-p-mentha-1,8-diene, d-limonene                                   |                    |           |   |                                   |   |
|              | Acute fish toxicity  | LC50 0,72 mg/l     | 96 h      | Pimephales promelas                                 | Study report (1990)               | OECD Guideline 203                      |
|              | Acute algae toxicity   | ErC50 0,32 mg/l    | 72 h      | Pseudokirchneriella subcapitata                     | Study report (2013)               | OECD Guideline 201                      |

**Safety Data Sheet**

according to UK REACH Regulation

**938 Injector Intensive Cleaner MF93800500AB**

Revision date: 12.01.2022

Product code: 1102349

Page 14 of 18

|          |                          |                |          |      |   |                                  |   |
|----------|--------------------------|----------------|----------|------|---|----------------------------------|---|
|          | Acute crustacea toxicity | EC50<br>mg/l   | 0,307    | 48 h | Daphnia magna   | Study report<br>(2013)           | OECD Guideline<br>202                             |
|          | Fish toxicity            | NOEC<br>mg/l   | 0,37     | 8 d  | Pimephales<br>promelas                                    | Study report<br>(2015)           | OECD Guideline<br>212                             |
|          | Crustacea toxicity       | NOEC<br>mg/l   | 0,08     | 21 d | Daphnia magna   | Study report<br>(2016)           | OECD Guideline<br>211                             |
|          | Acute bacteria toxicity  | (EC50<br>mg/l) | 209      | 3 h  | activated sludge of a<br>predominantly<br>domestic sewage | Study report<br>(2010)           | OECD Guideline<br>209                             |
| 104-76-7 | 2-Ethylhexan-1-ol        |                |          |      |   |                                  |   |
|          | Acute fish toxicity      | LC50<br>mg/l   | 17,1     | 96 h | Leuciscus idus<br>(golden orfe)                           |                                  |   |
|          | Acute algae toxicity     | ErC50<br>mg/l  | 11,5     | 72 h | Scenedesmus<br>subspicatus                                |                                  |   |
|          | Acute crustacea toxicity | EC50           | 39 mg/l  | 48 h | Daphnia magna   |                                  |   |
| 110-91-8 | morpholine               |                |          |      |   |                                  |   |
|          | Acute fish toxicity      | LC50           | 380 mg/l | 96 h | Oncorhynchus mykiss                                       | Chemosphere 9:<br>753-762 (1980) | other: IRSA                                       |
|          | Acute algae toxicity     | ErC50          | 28 mg/l  | 96 h | Pseudokirchneriella<br>subcapitata                        | Chemosphere 9:<br>753-762 (1980) | other: EPA,<br>National<br>Eutrophication<br>Rese |
|          | Acute crustacea toxicity | EC50<br>mg/l   | 44,5     | 48 h | Daphnia magna   | Study report<br>(1997)           | OECD Guideline<br>202                             |
|          | Algae toxicity           | NOEC           | 10 mg/l  | 4 d  | Desmodesmus<br>subspicatus                                |                                  |   |
|          | Crustacea toxicity       | NOEC           | 5 mg/l   | 21 d | Daphnia magna   | Study report<br>(1997)           | OECD Guideline<br>211                             |

**12.2. Persistence and degradability**

The product has not been tested.

| CAS No   | Chemical name   |       |    |        |
|----------|---|-------|----|--------|
|          | Method  | Value | d  | Source |
|          | Evaluation  |       |    |        |
| 110-91-8 | morpholine  |       |    |        |
|          | OECD 301E   | 93%   | 25 |        |
|          | Easily biodegradable (concerning to the criteria of the OECD) |       |    |        |

**12.3. Bioaccumulative potential**

The product has not been tested.

**Partition coefficient n-octanol/water**

| CAS No     | Chemical name                      | Log Pow |
|------------|------------------------------------|---------|
| 71-23-8    | n-propanol                         | 0,29    |
| 27247-96-7 | 2-Ethylhexyl nitrate               | 5,24    |
| 5989-27-5  | (R)-p-mentha-1,8-diene, d-limonene | 4,38    |
| 104-76-7   | 2-Ethylhexan-1-ol                  | 2,9     |
| 110-91-8   | morpholine                         | -2,55   |

**Safety Data Sheet**

according to UK REACH Regulation

**938 Injector Intensive Cleaner MF93800500AB**

Revision date: 12.01.2022

Product code: 1102349

Page 15 of 18

**BCF**

| CAS No       | Chemical name   | BCF   | Species         | Source               |
|--------------|---|-------|-----------------|----------------------|
| 1174921-73-3 | Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics | 144,3 | calculated      | Other company data ( |
| 5989-27-5    | (R)-p-mentha-1,8-diene, d-limonene                                  | 908,5 |                 | Other company data ( |
| 110-91-8     | morpholine  | 0     | Cyprinus carpio | Review article or ha |

**12.4. Mobility in soil**

The product has not been tested.

**12.5. Results of PBT and vPvB assessment**

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

The product has not been tested.

**12.6. Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

**12.7. Other adverse effects**

No information available.

**Further information**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

**List of Wastes Code - residues/unused products**

160504 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; gases in pressure containers (including halons) containing hazardous substances; hazardous waste

**List of Wastes Code - used product**

160504 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; gases in pressure containers (including halons) containing hazardous substances; hazardous waste

**List of Wastes Code - contaminated packaging**

150104 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); metallic packaging

**SECTION 14: Transport information****Land transport (ADR/RID)**

|  |                 |
|--|-----------------|
| <b>14.1. UN number or ID number:</b>     | UN 1950         |
| <b>14.2. UN proper shipping name:</b>    | AEROSOLS        |
| <b>14.3. Transport hazard class(es):</b> | 2               |
| <b>14.4. Packing group:</b>              | -               |
| Hazard label:                            | 2.1             |
| Classification code:                     | 5F              |
| Special Provisions:                      | 190 327 344 625 |
| Limited quantity:                        | 1 L             |
| Excepted quantity:                       | E0              |
| Transport category:                      | 2               |

**Safety Data Sheet**

according to UK REACH Regulation

**938 Injector Intensive Cleaner MF93800500AB**

Revision date: 12.01.2022

Product code: 1102349

Page 16 of 18

Tunnel restriction code: D

**Inland waterways transport (ADN)**

**14.1. UN number or ID number:** UN 1950  
**14.2. UN proper shipping name:** AEROSOLS  
**14.3. Transport hazard class(es):** 2  
**14.4. Packing group:** -  
Hazard label: 2.1  
Classification code: 5F  
Special Provisions: 190 327 344 625  
Limited quantity: 1 L  
Excepted quantity: E0

**Marine transport (IMDG)**

**14.1. UN number or ID number:** UN 1950  
**14.2. UN proper shipping name:** AEROSOLS (2-Ethylhexyl nitrate)  
**14.3. Transport hazard class(es):** 2.1  
**14.4. Packing group:** -  
Hazard label: 2.1  
Marine pollutant: yes  
Special Provisions: 63, 190, 277, 327, 344, 381,959  
Limited quantity: 1000 mL  
Excepted quantity: E0  
EmS: F-D, S-U

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

**14.1. UN number or ID number:** UN 1950  
**14.2. UN proper shipping name:** AEROSOLS, flammable  
**14.3. Transport hazard class(es):** 2.1  
**14.4. Packing group:** -  
Hazard label: 2.1  
Special Provisions: A145 A167 A802  
Limited quantity Passenger: 30 kg G  
Passenger LQ: Y203  
Excepted quantity: E0  
IATA-packing instructions - Passenger: 203  
IATA-max. quantity - Passenger: 75 kg  
IATA-packing instructions - Cargo: 203  
IATA-max. quantity - Cargo: 150 kg

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: Yes  
Danger releasing substance: 2-ethylhexyl nitrate

**14.6. Special precautions for user**

No information available.

**14.7. Maritime transport in bulk according to IMO instruments**

not applicable

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

Restrictions on use (REACH, annex XVII):  
Entry 3, Entry 40, Entry 75



**Safety Data Sheet**

according to UK REACH Regulation

**938 Injector Intensive Cleaner MF93800500AB**

Revision date: 12.01.2022

Product code: 1102349

Page 17 of 18

2010/75/EU (VOC): No information available.

2004/42/EC (VOC): No information available.

**Additional information**Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)  
Aerosol Directive (75/324/)**National regulatory information**

Water hazard class (D): 2 - obviously hazardous to water

**15.2. Chemical safety assessment**

Chemical safety assessments for substances in this mixture were not carried out.

**SECTION 16: Other information****Changes**

This data sheet contains changes from the previous version in section(s): 2.

**Abbreviations and acronyms**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IATA: International Air Transport Association

IMDG: International Maritime Code for Dangerous Goods

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL/DMEL: Derived No Effect Level / Derived Minimal Effect Level

WEL (UK): Workplace Exposure Limits

TWA (EC): Time-Weighted Average

ATE: Acute Toxicity Estimate

STEL (EC) Short Term Exposure Limit

LC50: Lethal Concentration

EC50: half maximal Effective Concentration

ErC50: means EC50 in terms of reduction of growth rate

**Classification for mixtures and used evaluation method according to GB CLP Regulation**

| Classification          | Classification procedure      |
|-------------------------|-------------------------------|
| Aerosol 1; H222-H229    | On basis of test data         |
| Asp. Tox. 1; H304       | Calculation method            |
| Eye Dam. 1; H318        | Bridging principle "Aerosols" |
| Skin Sens. 1; H317      | Bridging principle "Aerosols" |
| STOT SE 3; H336         | Bridging principle "Aerosols" |
| Aquatic Chronic 2; H411 | Calculation method            |

**Relevant H and EUH statements (number and full text)**

|      |   |
|------|---|
| H222 | Extremely flammable aerosol.                  |
| H225 | Highly flammable liquid and vapour.           |
| H226 | Flammable liquid and vapour.                  |
| H229 | Pressurised container: May burst if heated.   |
| H302 | Harmful if swallowed.                         |
| H304 | May be fatal if swallowed and enters airways. |
| H311 | Toxic in contact with skin.                   |

**Safety Data Sheet**

according to UK REACH Regulation

**938 Injector Intensive Cleaner MF93800500AB**

Revision date: 12.01.2022

Product code: 1102349

Page 18 of 18

|        |  |
|--------|--|
| H312   | Harmful in contact with skin.  |
| H314   | Causes severe skin burns and eye damage.                                 |
| H315   | Causes skin irritation.  |
| H317   | May cause an allergic skin reaction.                                     |
| H318   | Causes serious eye damage.   |
| H319   | Causes serious eye irritation.   |
| H331   | Toxic if inhaled.  |
| H332   | Harmful if inhaled.  |
| H335   | May cause respiratory irritation.  |
| H336   | May cause drowsiness or dizziness.                                       |
| H361fd | Suspected of damaging fertility. Suspected of damaging the unborn child. |
| H400   | Very toxic to aquatic life.  |
| H410   | Very toxic to aquatic life with long lasting effects.                    |
| H411   | Toxic to aquatic life with long lasting effects.                         |
| H412   | Harmful to aquatic life with long lasting effects.                       |
| EUH044 | Risk of explosion if heated under confinement.                           |
| EUH066 | Repeated exposure may cause skin dryness or cracking.                    |

**Further Information**

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.

---

*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*