# ML 55 Application Fluid (WP 1103)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830
Reference number: Periodic review of SDS 23/08/2024
Issue date: 07/04/2014 Revision date: 23/08/2021 Supersedes version of: 13/12/2019 Version: 1.5

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

### 1.1. Product identifier

| | | |
|---|---|---|
| Product form | : | Mixture |
| Product name | : | ML 55 Application Fluid (WP 1103) |
| Product code | : | WP 1103 |
| Type of product | : | Preparation based on solvents and surfactants |
| Product group | : | Blend |

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

#### 1.2.1. Relevant identified uses

| | | |
|---|---|---|
| Industrial/Professional use spec | : | Industrial<br>For professional use only |
| Use of the substance/mixture | : | Air bubble free positioning of signs and graphics |

#### 1.2.2. Uses advised against

No additional information available

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

Wessex Chemical Factors Ltd
17 Crane Way, Woolsbridge Industrial Park,
Three Legged Cross, Wimborne, Dorset – BH21 6FA
United Kingdom
T +44 (0) 1202 823 699 - F +44 (0) 1202 813 863
www.wessexchemicalfactors.co.uk
E-mail address of competent person responsible for the SDS : info@wessexchemicalfactors.co.uk

### 1.4. Emergency telephone number

| | | |
|---|---|---|
| Emergency number | : | +44 (0) 1202 823 699 (Office hours only 9am - 5pm Monday - Thursday, 9am - 4pm Friday.)<br>+44 (0) 7973629367 (Out of hours emergency number) |

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

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

| | |
|---|---|
| Flammable liquids, Category 3 | H226 |
| Serious eye damage/eye irritation, Category 2 | H319 |

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

**Adverse physicochemical, human health and environmental effects**

Flammable liquid and vapour. Causes serious eye irritation.

### 2.2. Label elements

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

Hazard pictograms (CLP) :

GHS02 GHS07

| | | |
|---|---|---|
| Signal word (CLP) | : | Warning |
| Hazard statements (CLP) | : | H226 - Flammable liquid and vapour.<br>H319 - Causes serious eye irritation. |
| Precautionary statements (CLP) | : | P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |

P233 - Keep container tightly closed.
P240 - Ground and bond container and receiving equipment.
P241 - Use explosion-proof electrical equipment.
P264 - Wash hands thoroughly after handling.
P280 - Wear eye protection, protective gloves.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P370+P378 - In case of fire: Use carbon dioxide (CO2), alcohol resistant foam, dry extinguishing powder to extinguish.
P403+P235 - Store in a well-ventilated place. Keep cool.
P501 - Dispose of contents and container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|---|---|---|---|
| ethanol; ethyl alcohol | CAS-No.: 64-17-5<br>EC-No.: 200-578-6<br>EC Index-No.: 603-002-00-5 | ≥ 30 | Flam. Liq. 2, H225<br>Eye Irrit. 2, H319 |
| methanol | CAS-No.: 67-56-1<br>EC-No.: 200-659-6<br>EC Index-No.: 603-001-00-X<br>REACH-no: 01-2119433307-44-XXXX | 1 – 3 | Flam. Liq. 2, H225<br>Acute Tox. 3 (Oral), H301<br>Acute Tox. 3 (Dermal), H311<br>Acute Tox. 3 (Inhalation), H331<br>STOT SE 1, H370 |
| Benzenesulfonic acid, 4-C10-13-sec-alkyl derivs., sodium salts | CAS-No.: 127184-52-5<br>EC-No.: 603-187-2 | 0.01 – 0.1 | Acute Tox. 4 (Oral), H302 |
| alcohols, C12-14, ethoxylated (1-2.5 EO), sulphates, sodium salts <10% | CAS-No.: 68891-38-3<br>EC-No.: 500-234-8<br>REACH-no: 01-2119488639-16 | 0.01 – 0.1 | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Aquatic Chronic 3, H412 |
| Amides,C8-18(even-numbered) and C18(unsatd.), N,N-bis(hydroxyethyl) | CAS-No.: 68155-07-7<br>EC-No.: 931-329-6<br>REACH-no: 01-2119490100-53-XXXX | < 0.01 | Skin Irrit. 2, H315<br>Eye Dam. 1, H318<br>Aquatic Chronic 2, H411 |
| glycerol | CAS-No.: 56-81-5<br>EC-No.: 200-289-5<br>REACH-no: 01-2119471987-18 | < 0.01 | Not classified |
| 2,2'-iminodiethanol; diethanolamine | CAS-No.: 111-42-2<br>EC-No.: 203-868-0<br>EC Index-No.: 603-071-00-1<br>REACH-no: 01-2119488930-28 | < 0.01 | Acute Tox. 4 (Oral), H302<br>Skin Irrit. 2, H315<br>Eye Dam. 1, H318<br>STOT RE 2, H373<br>Aquatic Chronic 3, H412 |

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|---|---|---|---|
| formaldehyde …%<br>(Note B)(Note D) | CAS-No.: 50-00-0<br>EC-No.: 200-001-8<br>EC Index-No.: 605-001-00-5<br>REACH-no: 01-2119488953-20-XXXX | < 0.01 | Acute Tox. 3 (Oral), H301<br>Acute Tox. 3 (Dermal), H311<br>Acute Tox. 3 (Inhalation), H331<br>Acute Tox. 3 (Inhalation:dust,mist), H331<br>Skin Corr. 1B, H314<br>Skin Sens. 1, H317<br>Muta. 2, H341<br>Carc. 1B, H350 |
| Citrella | - | < 0.01 | Not classified |
| green dye | - | < 0.01 | Not classified |
| Fluoresciene dye | - | < 0.01 | Not classified |

**Specific concentration limits:**

| Name | Product identifier | Specific concentration limits |
|---|---|---|
| methanol | CAS-No.: 67-56-1<br>EC-No.: 200-659-6<br>EC Index-No.: 603-001-00-X<br>REACH-no: 01-2119433307-44-XXXX | ( 3 ≤C < 10) STOT SE 2, H371<br>( 10 ≤C < 100) STOT SE 1, H370 |
| formaldehyde …% | CAS-No.: 50-00-0<br>EC-No.: 200-001-8<br>EC Index-No.: 605-001-00-5<br>REACH-no: 01-2119488953-20-XXXX | ( 0.2 ≤C < 100) Skin Sens. 1, H317<br>( 5 ≤C < 100) STOT SE 3, H335<br>( 5 ≤C < 25) Eye Irrit. 2, H319<br>( 5 ≤C < 25) Skin Irrit. 2, H315<br>( 25 ≤C < 100) Skin Corr. 1B, H314 |

Note B : Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labelling since the hazards vary at different concentrations. In Part 3 entries with Note B have a general designation of the following type: 'nitric acid … %'. In this case the supplier must state the percentage concentration of the solution on the label. Unless otherwise stated, it is assumed that the percentage concentration is calculated on a weight/weight basis.
Note D : Certain substances which are susceptible to spontaneous polymerisation or decomposition are generally placed on the market in a stabilised form. It is in this form that they are listed in Part 3. However, such substances are sometimes placed on the market in a non-stabilised form. In this case, the supplier must state on the label the name of the substance followed by the words 'non-stabilised'.
Full text of H- and EUH-statements: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Allow affected person to breathe fresh air. Allow the victim to rest.

First-aid measures after skin contact : Rinse skin with water/shower. Take off immediately all contaminated clothing.

First-aid measures after eye contact : Rinse immediately with plenty of water. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persists.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.

Symptoms/effects after eye contact : Eye irritation.

| | | |
|---|---|---|
| Symptoms/effects after ingestion | : | This material contains methanol, which, when ingested, has cards acidosis, ocular toxicity ranging from diminished visual capacity to complete blindness, and death. Can enter the body by ingestion or inhalation or through the skin. |
| Chronic symptoms | : | This material or its emissions may cause damage to kidney and liver and/or aggravate existing disorders. |

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

| | | |
|---|---|---|
| Suitable extinguishing media | : | Sand. Alcohol resistant foam. Water spray. Dry powder. Foam. Carbon dioxide. |
| Unsuitable extinguishing media | : | Do not use a heavy water stream. |

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

| | | |
|---|---|---|
| Fire hazard | : | Flammable liquid and vapour. |
| Explosion hazard | : | May form flammable/explosive vapour-air mixture. |
| Hazardous decomposition products in case of fire | : | Toxic fumes may be released. |

### 5.3. Advice for firefighters

| | | |
|---|---|---|
| Firefighting instructions | : | Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment. |
| Protection during firefighting | : | Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. |

## SECTION 6: Accidental release measures

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

| | | |
|---|---|---|
| General measures | : | Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking. |

#### 6.1.1. For non-emergency personnel

| | | |
|---|---|---|
| Emergency procedures | : | Ventilate spillage area. Evacuate unnecessary personnel. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. |

#### 6.1.2. For emergency responders

| | | |
|---|---|---|
| Protective equipment | : | Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection". |
| Emergency procedures | : | Ventilate area. |

### 6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

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

| | | |
|---|---|---|
| For containment | : | In case of fire: Stop leak if safe to do so. |
| Methods for cleaning up | : | Take up liquid spill into absorbent material. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. Notify authorities if product enters sewers or public waters. |
| Other information | : | Dispose of materials or solid residues at an authorized site. |

### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection. For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapours are flammable.

Precautions for safe handling : Ensure good ventilation of the work station. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. No open flames. No smoking. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Avoid contact with skin and eyes.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

Technical measures : Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof electrical equipment. Ground/bond container and receiving equipment.

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Direct sunlight. Keep in fireproof place. Keep container tightly closed.

Incompatible products : Strong bases. Strong acids. Oxidizing agent.

Incompatible materials : Sources of ignition. Direct sunlight. Heat sources.

Storage temperature : ≥ 5 °C

Information on mixed storage : Do not store near oxidizing agents or acidic material.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 8.1.1 National occupational exposure and biological limit values

| ethanol; ethyl alcohol (64-17-5) | |
|---|---|
| **United Kingdom - Occupational Exposure Limits** | |
| Local name | Ethanol |
| WEL TWA (OEL TWA) [1] | 1920 mg/m³ |
| WEL TWA (OEL TWA) [2] | 1000 ppm |
| Regulatory reference | EH40/2005 (Fourth edition, 2020). HSE |

| methanol (67-56-1) | |
|---|---|
| **EU - Indicative Occupational Exposure Limit (IOEL)** | |
| Local name | Methanol |
| IOEL TWA [ppm] | 200 ppm |
| Remark | Skin |
| Regulatory reference | COMMISSION DIRECTIVE 2006/15/EC |
| **United Kingdom - Occupational Exposure Limits** | |
| Local name | Methanol |
| WEL TWA (OEL TWA) [1] | 266 mg/m³ |
| WEL TWA (OEL TWA) [2] | 200 ppm |
| WEL STEL (OEL STEL) | 333 mg/m³ |

| methanol (67-56-1) | |
|---|---|
| WEL STEL (OEL STEL) [ppm] | 250 ppm |
| Remark | Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity) |
| Regulatory reference | EH40/2005 (Fourth edition, 2020). HSE |

| formaldehyde …% (50-00-0) | |
|---|---|
| **EU - Indicative Occupational Exposure Limit (IOEL)** | |
| Local name | Formaldehyde |
| IOEL TWA | 0.37 mg/m³ |
| IOEL STEL | 0.74 mg/m³ (BOEL) |
| IOEL STEL [ppm] | 0.6 ppm (BOEL) |
| Remark | Dermal sensitisation |
| Regulatory reference | DIRECTIVE (EU) 2019/983 (amending Directive 2004/37/EC) |
| **EU - Binding Occupational Exposure Limit (BOEL)** | |
| Local name | Formaldehyde |
| BOEL TWA | 0.37 mg/m³<br>0.62 mg/m³ (Limit value for the health care, funeral and embalming sectors until 11 July 2024) |
| BOEL TWA [ppm] | 0.3 ppm<br>0.5 ppm (Limit value for the health care, funeral and embalming sectors until 11 July 2024) |
| BOEL STEL | 0.74 mg/m³ |
| BOEL STEL [ppm] | 0.6 ppm |
| Notes | Dermal sensitisation |
| Regulatory reference | DIRECTIVE (EU) 2019/983 (amending Directive 2004/37/EC) |
| **United Kingdom - Occupational Exposure Limits** | |
| Local name | Formaldehyde |
| WEL TWA (OEL TWA) [1] | 2.5 mg/m³ |
| WEL TWA (OEL TWA) [2] | 2 ppm |
| WEL STEL (OEL STEL) | 2.5 mg/m³ |
| WEL STEL (OEL STEL) [ppm] | 2 ppm |
| Regulatory reference | EH40/2005 (Fourth edition, 2020). HSE |

| glycerol (56-81-5) | |
|---|---|
| **United Kingdom - Occupational Exposure Limits** | |
| Local name | Glycerol |
| WEL TWA (OEL TWA) [1] | 10 mg/m³ mist |
| Regulatory reference | EH40/2005 (Fourth edition, 2020). HSE |

#### 8.1.2. Recommended monitoring procedures

No additional information available

#### 8.1.3. Air contaminants formed

No additional information available

#### 8.1.4. DNEL and PNEC

No additional information available

#### 8.1.5. Control banding

No additional information available

### 8.2. Exposure controls

#### 8.2.1. Appropriate engineering controls

**Appropriate engineering controls:**
Ensure good ventilation of the work station.

#### 8.2.2. Personal protection equipment

**Personal protective equipment:**
Avoid all unnecessary exposure. Gloves. Protective goggles.

**Personal protective equipment symbol(s):**

#### 8.2.2.1. Eye and face protection

**Eye protection:**
Chemical goggles or safety glasses

#### 8.2.2.2. Skin protection

**Skin and body protection:**
Wear suitable protective clothing

**Hand protection:**
Wear protective gloves.

**Other skin protection**

**Materials for protective clothing:**
Wear suitable working clothes

#### 8.2.2.3. Respiratory protection

**Respiratory protection:**
Wear appropriate mask

#### 8.2.2.4. Thermal hazards

No additional information available

#### 8.2.3. Environmental exposure controls

**Environmental exposure controls:**
Avoid release to the environment.

**Other information:**
Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

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

| | | |
|---|---|---|
| Physical state | : | Liquid |
| Colour | : | clear. |
| Odour | : | alcohol odour. |
| Odour threshold | : | No data available |
| pH | : | No data available |
| Relative evaporation rate (butylacetate=1) | : | No data available |
| Melting point | : | Not applicable |
| Freezing point | : | No data available |
| Boiling point | : | No data available |
| Flash point | : | ~ 25 °C |

| | | |
|---|---|---|
| Auto-ignition temperature | : | No data available |
| Decomposition temperature | : | No data available |
| Flammability (solid, gas) | : | Highly flammable liquid and vapour. |
| Vapour pressure | : | No data available |
| Relative vapour density at 20 °C | : | No data available |
| Relative density | : | No data available |
| Density | : | 0.93 g/cm³ |
| Solubility | : | soluble in water. |
| Partition coefficient n-octanol/water (Log Pow) | : | No data available |
| Viscosity, kinematic | : | No data available |
| Viscosity, dynamic | : | No data available |
| Explosive properties | : | No data available |
| Oxidising properties | : | No data available |
| Explosive limits | : | No data available |

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Flammable liquid and vapour.

### 10.2. Chemical stability

Highly flammable liquid and vapour. May form flammable/explosive vapour-air mixture.

### 10.3. Possibility of hazardous reactions

Not established.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame. Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

### 10.5. Incompatible materials

Strong acids. Strong bases. Oxidizing agent.

### 10.6. Hazardous decomposition products

May release flammable gases. fume. Carbon monoxide. Carbon dioxide.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

| | | |
|---|---|---|
| Acute toxicity (oral) | : | Not classified |
| Acute toxicity (dermal) | : | Not classified |
| Acute toxicity (inhalation) | : | Not classified |

| ethanol; ethyl alcohol (64-17-5) | |
|---|---|
| LD50 oral rat | 10470 mg/kg |
| LD50 oral | 3450 mg/kg (Mouse) |
| LD50 dermal rat | 15800 mg/kg |
| LC50 Inhalation - Rat | 51 – 55 mg/l/4h |
| LC50 Inhalation - Rat (Vapours) | 124.7 mg/l/4h |

| methanol (67-56-1) | |
|---|---|
| LD50 oral rat | 1187 – 2769 mg/kg |
| LC50 Inhalation - Rat | 115.9 – 130.7 mg/l/4h |

| 2,2'-iminodiethanol; diethanolamine (111-42-2) | |
|---|---|
| LD50 oral rat | 1820 mg/kg bodyweight |

| Amides,C8-18(even-numbered) and C18(unsatd.), N,N-bis(hydroxyethyl) (68155-07-7) | |
|---|---|
| LD50 oral rat | > 2000 mg/kg |
| LD50 dermal rabbit | > 2000 mg/kg |

| formaldehyde …% (50-00-0) | |
|---|---|
| LD50 oral rat | 100 mg/kg bodyweight |
| LD50 dermal rabbit | 270 mg/kg |

| alcohols, C12-14, ethoxylated (1-2.5 EO), sulphates, sodium salts <10% (68891-38-3) | |
|---|---|
| LD50 oral rat | 4100 mg/kg bodyweight |
| LD50 dermal rat | > 2000 mg/kg bodyweight |

| glycerol (56-81-5) | |
|---|---|
| LD50 oral rat | 27200 mg/kg |
| LD50 dermal | 56750 mg/kg (In guinea pigs) |
| LC50 Inhalation - Rat (Vapours) | 2.75 mg/l/4h |

Skin corrosion/irritation : Not classified
Additional information : Based on available data, the classification criteria are not met
Serious eye damage/irritation : Causes serious eye irritation.
Additional information : Based on available data, the classification criteria are not met
Respiratory or skin sensitisation : Not classified
Additional information : Based on available data, the classification criteria are not met
Germ cell mutagenicity : Not classified
Additional information : Based on available data, the classification criteria are not met
Carcinogenicity : Not classified
Additional information : Based on available data, the classification criteria are not met

| formaldehyde …% (50-00-0) | |
|---|---|
| IARC group | 1 - Carcinogenic to humans |

Reproductive toxicity : Not classified
Additional information : Based on available data, the classification criteria are not met
STOT-single exposure : Not classified
Additional information : Based on available data, the classification criteria are not met

| methanol (67-56-1) | |
|---|---|
| STOT-single exposure | Causes damage to organs. |

STOT-repeated exposure : Not classified
Additional information : Based on available data, the classification criteria are not met

| methanol (67-56-1) | |
|---|---|
| LOAEL, subacute, oral, monkey | 2340 mg/kg bw (3 days) |

| 2,2'-iminodiethanol; diethanolamine (111-42-2) | |
|---|---|
| STOT-repeated exposure | May cause damage to organs through prolonged or repeated exposure. |

Aspiration hazard : Not classified
Additional information : Based on available data, the classification criteria are not met

Potential adverse human health effects and symptoms : Based on available data, the classification criteria are not met

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified

| ethanol; ethyl alcohol (64-17-5) | |
|---|---|
| LC50 - Fish [1] | 13000 mg/l Oncorhynchus mykiss (Rainbow trout) |
| LC50 - Fish [2] | 14200 mg/l Pimephales promelas (Fat-head Minnow) |
| EC50 - Crustacea [1] | 12340 mg/l |
| EC50 72h - Algae [1] | 275 mg/l Chlorella vulgaris |
| NOEC chronic crustacea | 9.6 mg/l Daphnia magna |
| EC50, algae, Selenastrum capricornutum | > 100 mg/l (48 Hours) |

| methanol (67-56-1) | |
|---|---|
| LC50 - Fish [1] | 15400 mg/l Lepomis macrochirus (Bluegill) |
| LC50 - Fish [2] | > 100 mg/l Pimephales promelas (Fat-head Minnow) |
| EC50 - Crustacea [1] | > 10000 mg/l |
| EC50 - Other aquatic organisms [1] | 2500 mg/l Crangon Crangon (Common sand shrimp) |
| EC50 96h - Algae [1] | 22000 mg/l Selenastrum capricornutum |
| EC50 96h - Algae [2] | 16.912 mg/l Marinewater algae Ulva pertusa |
| NOEC chronic fish | 15800 mg/l Oryzias latipes (Red killifish) |
| IC50, microorganisms, acute | 20000 mg/l (15 Hours) |
| IC50, microorganisms, acute | > 1000 mg/l (3 Hours) |

| 2,2'-iminodiethanol; diethanolamine (111-42-2) | |
|---|---|
| LC50 - Fish [1] | 460 – 5000 mg/l |
| EC50 - Crustacea [1] | 55 mg/l |
| ErC50 algae | 9.5 mg/l |
| NOEC chronic crustacea | 0.78 mg/l |

| Amides,C8-18(even-numbered) and C18(unsatd.), N,N-bis(hydroxyethyl) (68155-07-7) | |
|---|---|
| LC50 - Fish [1] | 2.4 mg/l Rainbow trout (Oncorhynchus mykiss) |
| LC50 - Fish [2] | 4.9 mg/l Zebrafish (Danio rerio) |
| EC50 - Crustacea [1] | 3.2 mg/l |
| EC50 72h - Algae [1] | 18.6 mg/l |
| NOEC chronic fish | 0.32 mg/l |
| NOEC chronic crustacea | 0.07 mg/l |

| formaldehyde …% (50-00-0) | |
|---|---|
| LC50 - Fish [1] | 6.18 mg/l striped bass (Morone saxatilis) |
| EC50 - Crustacea [1] | 5.8 mg/l |
| EC50 72h - Algae [1] | 3.48 mg/l |

| alcohols, C12-14, ethoxylated (1-2.5 EO), sulphates, sodium salts <10% (68891-38-3) | |
|---|---|
| LC50 - Fish [1] | 7.1 mg/l Zebrafish (Danio rerio) |
| EC50 - Crustacea [1] | 7.2 mg/l |
| EC50 72h - Algae [1] | 27 mg/l |
| NOEC chronic algae | 0.93 mg/l |

| glycerol (56-81-5) | |
|---|---|
| LC50 - Fish [1] | 54000 mg/l Rainbow trout (Oncorhynchus mykiss) |
| EC50 - Crustacea [1] | 1955 mg/l |
| EC50 72h - Algae [1] | > 2900 mg/l |
| EC50, microorganisms, acute, activated sludge | > 1000 mg/l |

## 12.2. Persistence and degradability

| ML 55 Application Fluid (WP 1103) | |
|---|---|
| Persistence and degradability | Not established. |

| ethanol; ethyl alcohol (64-17-5) | |
|---|---|
| Persistence and degradability | Readily biodegradable. |
| Biochemical oxygen demand (BOD) | 0.8 – 0.967 g $O_2$/g substance |
| Chemical oxygen demand (COD) | 1.7 g $O_2$/g substance |
| ThOD | 2.1 g $O_2$/g substance |
| BOD (% of ThOD) | 37.74 % ThOD |
| Biodegradation | 84 % 20 days |

| methanol (67-56-1) | |
|---|---|
| Persistence and degradability | Readily biodegradable. |
| Biochemical oxygen demand (BOD) | 0.6 – 1.12 g $O_2$/g substance |
| Chemical oxygen demand (COD) | 1.42 g $O_2$/g substance |
| ThOD | 1.5 g $O_2$/g substance |
| BOD (% of ThOD) | 0.8 % ThOD |
| Biodegradation | 95 % 20 days |

| 2,2'-iminodiethanol; diethanolamine (111-42-2) | |
|---|---|
| Persistence and degradability | Readily biodegradable. |

| Amides,C8-18(even-numbered) and C18(unsatd.), N,N-bis(hydroxyethyl) (68155-07-7) | |
|---|---|
| Persistence and degradability | Readily biodegradable. |
| Biodegradation | 92.5 % (28 days) |

| green dye | |
|---|---|
| Persistence and degradability | Not established. |

| formaldehyde …% (50-00-0) | |
|---|---|
| Persistence and degradability | Readily biodegradable. |

| alcohols, C12-14, ethoxylated (1-2.5 EO), sulphates, sodium salts <10% (68891-38-3) | |
|---|---|
| Persistence and degradability | Readily biodegradable. |

| glycerol (56-81-5) | |
|---|---|
| Persistence and degradability | Readily biodegradable. |

## 12.3. Bioaccumulative potential

| ML 55 Application Fluid (WP 1103) | |
|---|---|
| Bioaccumulative potential | Not established. |

| ethanol; ethyl alcohol (64-17-5) | |
|---|---|
| Partition coefficient n-octanol/water (Log Pow) | -0.32 |
| Bioaccumulative potential | Low. |

| methanol (67-56-1) | |
|---|---|
| BCF - Fish [1] | < 10 Leuciscus idus (Golden orfe) |
| Partition coefficient n-octanol/water (Log Pow) | -0.74 |
| Bioaccumulative potential | Low. Not expected to bioaccumulate due to the low log Kow (log Kow < 4). |

| 2,2'-iminodiethanol; diethanolamine (111-42-2) | |
|---|---|
| Bioaccumulative potential | Not established. |

| Amides,C8-18(even-numbered) and C18(unsatd.), N,N-bis(hydroxyethyl) (68155-07-7) | |
|---|---|
| Partition coefficient n-octanol/water (Log Pow) | 3.75 |
| Bioaccumulative potential | Not established. |

| green dye | |
|---|---|
| Bioaccumulative potential | Not established. |

| formaldehyde …% (50-00-0) | |
|---|---|
| Partition coefficient n-octanol/water (Log Pow) | 0.35 |
| Bioaccumulative potential | No bioaccumulation. |

| alcohols, C12-14, ethoxylated (1-2.5 EO), sulphates, sodium salts <10% (68891-38-3) | |
|---|---|
| Bioaccumulative potential | Bioaccumulation unlikely. |

| glycerol (56-81-5) | |
|---|---|
| Partition coefficient n-octanol/water (Log Pow) | -1.76 |
| Bioaccumulative potential | Low. |

## 12.4. Mobility in soil

| ML 55 Application Fluid (WP 1103) | |
|---|---|
| Ecology - soil | Mobile. |

| ethanol; ethyl alcohol (64-17-5) | |
|---|---|
| Surface tension | 24.5 mN/m |
| Ecology - soil | Product evaporates when in contact with the air. |

| methanol (67-56-1) | |
|---|---|
| Surface tension | 22.6 mN/m (20 °C) |
| Ecology - soil | Product adsorbs onto the soil. |

### 12.5. Results of PBT and vPvB assessment

| Component | |
|---|---|
| ethanol; ethyl alcohol (64-17-5) | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII<br>This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |
| methanol (67-56-1) | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII<br>This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |
| alcohols, C12-14, ethoxylated (1-2.5 EO), sulphates, sodium salts <10% (68891-38-3) | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII<br>This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |
| Amides,C8-18(even-numbered) and C18(unsatd.), N,N-bis(hydroxyethyl) (68155-07-7) | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII<br>This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |
| glycerol (56-81-5) | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII<br>This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |
| formaldehyde …% (50-00-0) | PBT: not relevant – no registration required |

### 12.6. Other adverse effects

Additional information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

Additional information : Handle empty containers with care because residual vapours are flammable. Flammable vapours may accumulate in the container.

Ecology - waste materials : Avoid release to the environment.

## SECTION 14: Transport information

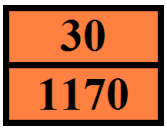
In accordance with ADR / IMDG / IATA / ADN / RID

| ADR | IMDG | IATA | ADN | RID |
|---|---|---|---|---|
| **14.1. UN number** | | | | |
| UN 1170 | UN 1170 | UN 1170 | UN 1170 | UN 1170 |
| **14.2. UN proper shipping name** | | | | |
| ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) | ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) | Ethanol solution | ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) | ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) |
| **Transport document description** | | | | |
| UN 1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION), 3, III, (D/E) | UN 1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION), 3, III | UN 1170 Ethanol solution, 3, III | UN 1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION), 3, III | UN 1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION), 3, III |

| ADR | IMDG | IATA | ADN | RID |
|---|---|---|---|---|
| **14.3. Transport hazard class(es)** | | | | |
| 3 | 3 | 3 | 3 | 3 |
|  |  |  |  |  |
| **14.4. Packing group** | | | | |
| III | III | III | III | III |
| **14.5. Environmental hazards** | | | | |
| Dangerous for the environment: No | Dangerous for the environment: No<br>Marine pollutant: No | Dangerous for the environment: No | Dangerous for the environment: No | Dangerous for the environment: No |
| No supplementary information available | | | | |

## 14.6. Special precautions for user

**Overland transport**

| | | |
|---|---|---|
| Classification code (ADR) | : | F1 |
| Special provisions (ADR) | : | 144, 601 |
| Limited quantities (ADR) | : | 5l |
| Excepted quantities (ADR) | : | E1 |
| Packing instructions (ADR) | : | P001, IBC03, LP01, R001 |
| Mixed packing provisions (ADR) | : | MP19 |
| Portable tank and bulk container instructions (ADR) | : | T2 |
| Portable tank and bulk container special provisions (ADR) | : | TP1 |
| Tank code (ADR) | : | LGBF |
| Vehicle for tank carriage | : | FL |
| Transport category (ADR) | : | 3 |
| Special provisions for carriage - Packages (ADR) | : | V12 |
| Special provisions for carriage - Operation (ADR) | : | S2 |
| Hazard identification number (Kemler No.) | : | 30 |
| Orange plates | : |  |
| Tunnel restriction code (ADR) | : | D/E |
| EAC code | : | •2YE |

**Transport by sea**

| | | |
|---|---|---|
| Special provisions (IMDG) | : | 144, 223 |
| Limited quantities (IMDG) | : | 5 L |
| Excepted quantities (IMDG) | : | E1 |
| Packing instructions (IMDG) | : | P001, LP01 |
| IBC packing instructions (IMDG) | : | IBC03 |
| Tank instructions (IMDG) | : | T2 |
| Tank special provisions (IMDG) | : | TP1 |
| EmS-No. (Fire) | : | F-E |
| EmS-No. (Spillage) | : | S-D |
| Stowage category (IMDG) | : | A |
| Properties and observations (IMDG) | : | Colourless, volatile liquids.Pure ETHANOL: flashpoint 13°C c.c. Explosive limits: 3.3% to 19% Miscible with water. |

**Air transport**

| | | |
|---|---|---|
| PCA Excepted quantities (IATA) | : | E1 |

| | | |
|---|---|---|
| PCA Limited quantities (IATA) | : | Y344 |
| PCA limited quantity max net quantity (IATA) | : | 10L |
| PCA packing instructions (IATA) | : | 355 |
| PCA max net quantity (IATA) | : | 60L |
| CAO packing instructions (IATA) | : | 366 |
| CAO max net quantity (IATA) | : | 220L |
| Special provisions (IATA) | : | A3, A58, A180 |
| ERG code (IATA) | : | 3L |

**Inland waterway transport**

| | | |
|---|---|---|
| Classification code (ADN) | : | F1 |
| Special provisions (ADN) | : | 144, 601 |
| Limited quantities (ADN) | : | 5 L |
| Excepted quantities (ADN) | : | E1 |
| Carriage permitted (ADN) | : | T |
| Equipment required (ADN) | : | PP, EX, A |
| Ventilation (ADN) | : | VE01 |
| Number of blue cones/lights (ADN) | : | 0 |

**Rail transport**

| | | |
|---|---|---|
| Classification code (RID) | : | F1 |
| Special provisions (RID) | : | 144, 601 |
| Limited quantities (RID) | : | 5L |
| Excepted quantities (RID) | : | E1 |
| Packing instructions (RID) | : | P001, IBC03, LP01, R001 |
| Mixed packing provisions (RID) | : | MP19 |
| Portable tank and bulk container instructions (RID) | : | T2 |
| Portable tank and bulk container special provisions (RID) | : | TP1 |
| Tank codes for RID tanks (RID) | : | LGBF |
| Transport category (RID) | : | 3 |
| Special provisions for carriage – Packages (RID) | : | W12 |
| Colis express (express parcels) (RID) | : | CE4 |
| Hazard identification number (RID) | : | 30 |

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

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions
Contains no substance on the REACH candidate list
Contains no REACH Annex XIV substances
Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.
Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants
Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

#### 15.1.2. National regulations

No additional information available

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

| Abbreviations and acronyms: | |
|---|---|
| ADN | European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways |
| ADR | European Agreement concerning the International Carriage of Dangerous Goods by Road |
| BCF | Bioconcentration factor |
| CLP | Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008 |
| EC50 | Median effective concentration |
| IARC | International Agency for Research on Cancer |
| IATA | International Air Transport Association |
| IMDG | International Maritime Dangerous Goods |
| LC50 | Median lethal concentration |
| LD50 | Median lethal dose |
| LOAEL | Lowest Observed Adverse Effect Level |
| NOEC | No-Observed Effect Concentration |
| PBT | Persistent Bioaccumulative Toxic |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006 |
| RID | Regulations concerning the International Carriage of Dangerous Goods by Rail |
| SDS | Safety Data Sheet |
| vPvB | Very Persistent and Very Bioaccumulative |

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

| Full text of H- and EUH-statements: | |
|---|---|
| Acute Tox. 3 (Dermal) | Acute toxicity (dermal), Category 3 |
| Acute Tox. 3 (Inhalation) | Acute toxicity (inhal.), Category 3 |
| Acute Tox. 3 (Inhalation:dust,mist) | Acute toxicity (inhalation:dust,mist) Category 3 |
| Acute Tox. 3 (Oral) | Acute toxicity (oral), Category 3 |
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| Aquatic Chronic 2 | Hazardous to the aquatic environment — Chronic Hazard, Category 2 |
| Aquatic Chronic 3 | Hazardous to the aquatic environment — Chronic Hazard, Category 3 |
| Carc. 1B | Carcinogenicity, Category 1B |
| Eye Dam. 1 | Serious eye damage/eye irritation, Category 1 |
| Eye Irrit. 2 | Serious eye damage/eye irritation, Category 2 |
| Flam. Liq. 2 | Flammable liquids, Category 2 |
| H225 | Highly flammable liquid and vapour. |
| H226 | Flammable liquid and vapour. |
| H301 | Toxic if swallowed. |

| Full text of H- and EUH-statements: | |
|---|---|
| H302 | Harmful if swallowed. |
| H311 | Toxic 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. |
| H335 | May cause respiratory irritation. |
| H341 | Suspected of causing genetic defects. |
| H350 | May cause cancer. |
| H370 | Causes damage to organs. |
| H371 | May cause damage to organs. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H411 | Toxic to aquatic life with long lasting effects. |
| H412 | Harmful to aquatic life with long lasting effects. |
| Muta. 2 | Germ cell mutagenicity, Category 2 |
| Skin Corr. 1B | Skin corrosion/irritation, Category 1, Sub-Category 1B |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 |
| Skin Sens. 1 | Skin sensitisation, Category 1 |
| STOT RE 2 | Specific target organ toxicity — Repeated exposure, Category 2 |
| STOT SE 1 | Specific target organ toxicity — single exposure, Category 1 |
| STOT SE 2 | Specific target organ toxicity — Single exposure, Category 2 |
| STOT SE 3 | Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation |

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.