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

### 1.1. Product identifier

**Trade name or designation of the mixture** FLAW DETECTOR PENETRANT 2

**Registration number** -

**Synonyms** None.

**Product code** UDS000722AE

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

**Identified uses** Welding Products

**Uses advised against** None known.

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

**Company name** CRC Industries UK Ltd.  
**Address** Wylds Road  
 Castlefield Industrial Estate  
 TA6 4DD Bridgwater Somerset  
 United Kingdom  
**Telephone** +44 1278 727200  
**Fax** +44 1278 425644  
**E-mail** hse.uk@crcind.com  
**Website** www.crcind.com

**Company name** CRC Industries Europe bv  
**Address** Touwslagerstraat 1  
 9240 Zele  
 Belgium  
**Telephone** +32(0)52/45.60.11  
**Fax** +32(0)52/45.00.34  
**E-mail** hse@crcind.com  
**Website** www.crcind.com

**1.4. Emergency telephone number** Tel.:(+44)(0)1278 72 7200 (office hours: 9-17h GMT)

**Austria National Poisons Information Centre** +431 406 4343 (Available 24 hours a day.)

**Belgium National Poisons Control Center** 070 245 245 (Available 24 hours a day.)

**Bulgaria National Toxicological Information Centre** +359 2 9154233 (Available 24 hours a day.)

**Czech Republic National Poisons Information Centre** +420 224 919 293, or +420 224 915 402 (Hours of operation not provided.)

**Denmark National Poisons Control Center** +45 82 12 12 12 (Available 24 hours a day.)

**Estonia National Poisons Information Centre** 16662 or abroad: (+372) 626 9390 (Monday 9:00AM to Saturday 9:00AM (closed on Sundays and on national holidays))

|                                                                         |                                                                                                                 |
|-------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <b>Finland National Poison Information Center</b>                       | (09) 471 977 (direct) or (09) 4711 (exchange) (Available 24 hours a day.)                                       |
| <b>France National Poisons Control Center</b>                           | ORFILA number (INRS): + 33 (0) 1 45 42 59 59 (Available 24 hours a day.)                                        |
| <b>Hungary National Emergency Phone Number</b>                          | 36 80 20 11 99 (Available 24 hours a day.)                                                                      |
| <b>Lithuania Neatidėliotina informacija apsinuodijus</b>                | +370 5 236 20 52 or +37068753378 (Hours of operation not provided.)                                             |
| <b>Malta Accident and Emergency Department</b>                          | 2545 4030 (Hours of operation not provided.)                                                                    |
| <b>Netherlands National Poisons Information Center (NVIC)</b>           | 030-274 88 88 (Only for the purpose of informing medical personnel in cases of acute intoxications)             |
| <b>Norway Norwegian Poison Information Center</b>                       | 22 59 13 00 (Available 24 hours a day.)                                                                         |
| <b>Portugal Poison Centre</b>                                           | 800 250 250 (Available 24 hours a day.)                                                                         |
| <b>Romania Număr de telefon care poate fi apelat în caz de urgență:</b> | 021 5992300, int. 291 Spitalul Clinic de Urgență București: spital@urgentafloreasca.ro                          |
| <b>Romania</b>                                                          | 0265 212111, 0265 211292, 0265 217235 Spitalul Clinic Județean de Urgență Târgu Mureș; secretariat@spitjudms.ro |
| <b>Slovakia National Toxicological Information Centre</b>               | +421 2 5477 4166 (Available 24 hours a day.)                                                                    |
| <b>Sweden National Poison Information Center</b>                        | 112 - and ask for Poison Information (Available 24 hours a day.)                                                |
| <b>Switzerland Tox Info Suisse</b>                                      | 145 (Available 24 hours a day.)                                                                                 |

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

#### Classification according to Regulation (EC) No 1272/2008 as amended

##### Physical hazards

|          |            |                                                                                           |
|----------|------------|-------------------------------------------------------------------------------------------|
| Aerosols | Category 1 | H222 - Extremely flammable aerosol.<br>H229 - Pressurized container: May burst if heated. |
|----------|------------|-------------------------------------------------------------------------------------------|

##### Health hazards

|                                   |            |                                       |
|-----------------------------------|------------|---------------------------------------|
| Serious eye damage/eye irritation | Category 2 | H319 - Causes serious eye irritation. |
|-----------------------------------|------------|---------------------------------------|

##### Environmental hazards

|                                                                |            |                                                           |
|----------------------------------------------------------------|------------|-----------------------------------------------------------|
| Hazardous to the aquatic environment, long-term aquatic hazard | Category 3 | H412 - Harmful to aquatic life with long lasting effects. |
|----------------------------------------------------------------|------------|-----------------------------------------------------------|

### 2.2. Label elements

#### Label according to Regulation (EC) No. 1272/2008 as amended

##### Hazard pictograms



##### Signal word

Danger

##### Hazard statements

|      |                                                    |
|------|----------------------------------------------------|
| H222 | Extremely flammable aerosol.                       |
| H229 | Pressurized container: May burst if heated.        |
| H319 | Causes serious eye irritation.                     |
| H412 | Harmful to aquatic life with long lasting effects. |

## Precautionary statements

### Prevention

|      |                                                                                                |
|------|------------------------------------------------------------------------------------------------|
| P102 | Keep out of reach of children.                                                                 |
| 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 eye protection/face protection.                                                           |

### Response

|                    |                                                                                                                                  |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------|
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------|

### Storage

|             |                                                                            |
|-------------|----------------------------------------------------------------------------|
| P410 + P412 | Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. |
|-------------|----------------------------------------------------------------------------|

### Disposal

|      |                                                                                                     |
|------|-----------------------------------------------------------------------------------------------------|
| P501 | Dispose of contents/container in accordance with local/regional/national/international regulations. |
|------|-----------------------------------------------------------------------------------------------------|

|                                       |                                                                                                                                                                                                              |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Supplemental label information</b> | EUH066 - Repeated exposure may cause skin dryness or cracking.<br>EUH208 - Contains<br>N-(2-Ethylhexyl)-1-[[3-methyl-4-[(3-methylphenyl)azo]phenyl]azo]naphthalen-2-amine. May produce an allergic reaction. |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                           |                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>2.3. Other hazards</b> | This mixture does not contain substances assessed to be vPvB / PBT according to Regulation (EC) No 1907/2006, Annex XIII. The mixture does not contain any substances included in the list established in accordance with REACH Article 59(1) for having endocrine disrupting properties at a concentration equal to or greater than 0.1% by weight. |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

#### General information

| Chemical name                                                                      | %       | CAS-No. / EC No.        | REACH Registration No. | Index No. | Notes                                                                                                                              |
|------------------------------------------------------------------------------------|---------|-------------------------|------------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------|
| Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, < 2% aromatics              | 25 - 50 | -<br>926-141-6          | 01-2119456620-43       | -         | <b>Classification:</b> Asp. Tox. 1;H304<br><b>Supplemental Hazard Statement(s):</b> EUH066                                         |
| Hydrocarbons, C10, aromatics, <1% naftalene                                        | 1 - 5   | -<br>918-811-1          | 01-2119463583-34       | -         | <b>Classification:</b> STOT SE 3;H336, Asp. Tox. 1;H304, Aquatic Chronic 2;H411<br><b>Supplemental Hazard Statement(s):</b> EUH066 |
| 2-decoxyethanol                                                                    | <3      | 26183-52-8<br>500-046-6 | -                      | -         | <b>Classification:</b> Acute Tox. 4;H302;(ATE: 500 mg/kg bw), Eye Dam. 1;H318                                                      |
| Glycine, N-methyl-N-(1-oxo-9-octadecenyl)-, (Z)-                                   | <1      | 110-25-8<br>203-749-3   | 01-2119488991-20       | -         | <b>Classification:</b> Acute Tox. 4;H332;(ATE: 11 mg/l), Skin Irrit. 2;H315, Eye Dam. 1;H318, Aquatic Acute 1;H400                 |
| N-(2-Ethylhexyl)-1-[[3-methyl-4-[(3-methylphenyl)azo]phenyl]azo]naphthalen-2-amine | <1      | 56358-10-2<br>260-125-3 | 01-2120767269-40       | -         | <b>Classification:</b> Skin Irrit. 2;H315, Skin Sens. 1;H317, Aquatic Chronic 4;H413                                               |

#### List of abbreviations and symbols that may be used above

ATE: Acute toxicity estimate.  
M: M-factor  
vPvB: very persistent and very bioaccumulative substance.  
PBT: persistent, bioaccumulative and toxic substance.  
#: This substance has been assigned Union workplace exposure limit(s).  
All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

|                             |                                                                |
|-----------------------------|----------------------------------------------------------------|
| <b>Composition comments</b> | The full text for all H-statements is displayed in section 16. |
|-----------------------------|----------------------------------------------------------------|

## SECTION 4: First aid measures

|                            |                                                                                                                  |
|----------------------------|------------------------------------------------------------------------------------------------------------------|
| <b>General information</b> | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. |
|----------------------------|------------------------------------------------------------------------------------------------------------------|

#### 4.1. Description of first aid measures

|              |                                                                                                                                                                                                    |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Inhalation   | Move to fresh air. Call a physician if symptoms develop or persist.                                                                                                                                |
| Skin contact | Wash off with soap and water. Get medical attention if irritation develops and persists.                                                                                                           |
| Eye contact  | Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. |
| Ingestion    | In the unlikely event of swallowing contact a physician or poison control centre. Rinse mouth.                                                                                                     |

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

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

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

Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

### SECTION 5: Firefighting measures

**General fire hazards** Extremely flammable aerosol.

#### 5.1. Extinguishing media

**Suitable extinguishing media** Water fog. Foam. Dry chemical powder. Carbon dioxide (CO<sub>2</sub>).

**Unsuitable extinguishing media** Do not use water jet as an extinguisher, as this will spread the fire.

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

Contents under pressure. Pressurised container may explode when exposed to heat or flame. During fire, gases hazardous to health may be formed.

#### 5.3. Advice for firefighters

**Special protective equipment for firefighters** Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

**Special fire fighting procedures** Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapour pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

#### Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials. In the event of fire and/or explosion do not breathe fumes.

### SECTION 6: Accidental release measures

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

**For non-emergency personnel** Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

**For emergency responders** Keep unnecessary personnel away. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. Use personal protection recommended in Section 8 of the SDS.

#### 6.2. Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

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

Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil etc) away from spilled material. The product is immiscible with water and will spread on the water surface. Prevent product from entering drains. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

#### 6.4. Reference to other sections

For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Pressurised container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Do not re-use empty containers. Avoid contact with eyes. Avoid prolonged exposure. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

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

Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Store away from incompatible materials (see Section 10 of the SDS). Storage class (TRGS 510): 2B (Aerosol dispensers and lighters)

### 7.3. Specific end use(s)

Observe industrial sector guidance on best practices.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

##### Austria

| Components                                                            | Type      | Value   |
|-----------------------------------------------------------------------|-----------|---------|
| Hydrocarbons, C10, aromatics, <1% naftalene                           | TWA (MAK) | 200 ppm |
| Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, < 2% aromatics | TWA (MAK) | 200 ppm |

##### Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001

| Components                                         | Type | Value    | Form                |
|----------------------------------------------------|------|----------|---------------------|
| 2-[bis(2-hydroxyethyl)amino]ethanol (CAS 102-71-6) | MAK  | 5 mg/m3  | Inhalable fraction. |
|                                                    |      | 0,8 ppm  | Inhalable fraction. |
|                                                    | STEL | 10 mg/m3 | Inhalable fraction. |
|                                                    |      | 1,6 ppm  | Inhalable fraction. |

##### Belgium. Exposure Limit Values

| Components                                         | Type | Value   |
|----------------------------------------------------|------|---------|
| 2-[bis(2-hydroxyethyl)amino]ethanol (CAS 102-71-6) | TWA  | 5 mg/m3 |

##### Czech Republic. OELs. Government Decree 361

| Components                                         | Type    | Value    |
|----------------------------------------------------|---------|----------|
| 2-[bis(2-hydroxyethyl)amino]ethanol (CAS 102-71-6) | Ceiling | 10 mg/m3 |
|                                                    | TWA     | 5 mg/m3  |

##### Denmark. Exposure Limit Values

| Components                                         | Type | Value     |
|----------------------------------------------------|------|-----------|
| 2-[bis(2-hydroxyethyl)amino]ethanol (CAS 102-71-6) | TLV  | 3,1 mg/m3 |
|                                                    |      | 0,5 ppm   |

##### Estonia. OELs. Occupational Exposure Limits of Hazardous Substances (Regulation No. 105/2001, Annex), as amended

| Components                                         | Type | Value    |
|----------------------------------------------------|------|----------|
| 2-[bis(2-hydroxyethyl)amino]ethanol (CAS 102-71-6) | STEL | 10 mg/m3 |
|                                                    | TWA  | 5 mg/m3  |

##### Finland. Workplace Exposure Limits

| Components                                         | Type | Value   |
|----------------------------------------------------|------|---------|
| 2-[bis(2-hydroxyethyl)amino]ethanol (CAS 102-71-6) | TWA  | 5 mg/m3 |

##### Germany

| Components                                                            | Type | Value     |
|-----------------------------------------------------------------------|------|-----------|
| Hydrocarbons, C10, aromatics, <1% naftalene                           | TWA  | 100 mg/m3 |
| Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, < 2% aromatics | TWA  | 300 mg/m3 |

##### Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)

| Components                                                      | Type | Value      | Form                |
|-----------------------------------------------------------------|------|------------|---------------------|
| 2-[bis(2-hydroxyethyl)amino]ethanol (CAS 102-71-6)              | TWA  | 1 mg/m3    | Inhalable fraction. |
| Glycine, N-methyl-N-(1-oxo-9-octadecenyl)-, (Z)- (CAS 110-25-8) | TWA  | 0,05 mg/m3 | Inhalable fraction. |

**Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace**

| Components                                                      | Type | Value     | Form                |
|-----------------------------------------------------------------|------|-----------|---------------------|
| 2-[bis(2-hydroxyethyl)amino]ethanol (CAS 102-71-6)              | AGW  | 1 mg/m3   | Inhalable fraction. |
| Glycine, N-methyl-N-(1-oxo-9-octadecenyl)-, (Z)- (CAS 110-25-8) | AGW  | 0,5 mg/m3 | Inhalable fraction. |

**Iceland. OELs. Regulation 154/1999 on occupational exposure limits**

| Components                                         | Type | Value   |
|----------------------------------------------------|------|---------|
| 2-[bis(2-hydroxyethyl)amino]ethanol (CAS 102-71-6) | TWA  | 5 mg/m3 |

**Ireland. Occupational Exposure Limits**

| Components                                         | Type | Value   |
|----------------------------------------------------|------|---------|
| 2-[bis(2-hydroxyethyl)amino]ethanol (CAS 102-71-6) | TWA  | 5 mg/m3 |

**Italy. Occupational Exposure Limits**

| Components                                         | Type | Value   |
|----------------------------------------------------|------|---------|
| 2-[bis(2-hydroxyethyl)amino]ethanol (CAS 102-71-6) | TWA  | 5 mg/m3 |

**Lithuania. OELs. Limit Values for Chemical Substances, General Requirements**

| Components                                         | Type | Value    |
|----------------------------------------------------|------|----------|
| 2-[bis(2-hydroxyethyl)amino]ethanol (CAS 102-71-6) | STEL | 10 mg/m3 |
|                                                    | TWA  | 5 mg/m3  |

**Netherlands**

| Components                                                            | Type      | Value      |
|-----------------------------------------------------------------------|-----------|------------|
| Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, < 2% aromatics | TWA (MAC) | 1200 mg/m3 |

**Norway. Administrative Norms for Contaminants in the Workplace**

| Components                                         | Type | Value   |
|----------------------------------------------------|------|---------|
| 2-[bis(2-hydroxyethyl)amino]ethanol (CAS 102-71-6) | TLV  | 5 mg/m3 |

**Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796)**

| Components                                         | Type | Value   |
|----------------------------------------------------|------|---------|
| 2-[bis(2-hydroxyethyl)amino]ethanol (CAS 102-71-6) | TWA  | 5 mg/m3 |

**Spain. Occupational Exposure Limits**

| Components                                         | Type | Value   |
|----------------------------------------------------|------|---------|
| 2-[bis(2-hydroxyethyl)amino]ethanol (CAS 102-71-6) | TWA  | 5 mg/m3 |

**Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7)**

| Components                                         | Type | Value    |
|----------------------------------------------------|------|----------|
| 2-[bis(2-hydroxyethyl)amino]ethanol (CAS 102-71-6) | STEL | 10 mg/m3 |
|                                                    |      | 1,6 ppm  |
|                                                    | TWA  | 5 mg/m3  |
|                                                    |      | 0,8 ppm  |

**Switzerland. SUVA Grenzwerte am Arbeitsplatz**

| Components                                                      | Type | Value     | Form                |
|-----------------------------------------------------------------|------|-----------|---------------------|
| 2-[bis(2-hydroxyethyl)amino]ethanol (CAS 102-71-6)              | STEL | 5 mg/m3   | Inhalable fraction. |
|                                                                 | TWA  | 5 mg/m3   | Inhalable fraction. |
| Glycine, N-methyl-N-(1-oxo-9-octadecenyl)-, (Z)- (CAS 110-25-8) | STEL | 0,2 mg/m3 | Inhalable fraction. |

| Components                                                            | Type                                                                                                                                                                                                                                                                                                                                                                                       | Value             | Form                   |
|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------------|
|                                                                       | TWA                                                                                                                                                                                                                                                                                                                                                                                        | 0,1 mg/m3         | Inhalable fraction.    |
| Biological limit values                                               | No biological exposure limits noted for the ingredient(s).                                                                                                                                                                                                                                                                                                                                 |                   |                        |
| Recommended monitoring procedures                                     | Follow standard monitoring procedures.                                                                                                                                                                                                                                                                                                                                                     |                   |                        |
| Derived no effect levels (DNELs)                                      |                                                                                                                                                                                                                                                                                                                                                                                            |                   |                        |
| General population                                                    |                                                                                                                                                                                                                                                                                                                                                                                            |                   |                        |
| Components                                                            | Value                                                                                                                                                                                                                                                                                                                                                                                      | Assessment factor | Notes                  |
| 2-[bis(2-hydroxyethyl)amino]ethanol (CAS 102-71-6)                    |                                                                                                                                                                                                                                                                                                                                                                                            |                   |                        |
| Long-term, Local, Inhalation                                          | 0,4 mg/m3                                                                                                                                                                                                                                                                                                                                                                                  | 36                | Repeated dose toxicity |
| Long-term, Systemic, Dermal                                           | 2,66 mg/kg                                                                                                                                                                                                                                                                                                                                                                                 | 100               | Repeated dose toxicity |
| Hydrocarbons, C10, aromatics, <1% naftalene (CAS -)                   |                                                                                                                                                                                                                                                                                                                                                                                            |                   |                        |
| Long-term, Systemic, Dermal                                           | 7,5 mg/kg bw/day                                                                                                                                                                                                                                                                                                                                                                           |                   |                        |
| Long-term, Systemic, Inhalation                                       | 32 mg/m3                                                                                                                                                                                                                                                                                                                                                                                   |                   |                        |
| Long-term, Systemic, Oral                                             | 7,5 mg/kg bw/day                                                                                                                                                                                                                                                                                                                                                                           |                   |                        |
| Workers                                                               |                                                                                                                                                                                                                                                                                                                                                                                            |                   |                        |
| Components                                                            | Value                                                                                                                                                                                                                                                                                                                                                                                      | Assessment factor | Notes                  |
| 2-[bis(2-hydroxyethyl)amino]ethanol (CAS 102-71-6)                    |                                                                                                                                                                                                                                                                                                                                                                                            |                   |                        |
| Long-term, Local, Inhalation                                          | 1 mg/m3                                                                                                                                                                                                                                                                                                                                                                                    |                   | Repeated dose toxicity |
| Long-term, Systemic, Dermal                                           | 7,5 mg/kg                                                                                                                                                                                                                                                                                                                                                                                  | 50                | Repeated dose toxicity |
| Hydrocarbons, C10, aromatics, <1% naftalene (CAS -)                   |                                                                                                                                                                                                                                                                                                                                                                                            |                   |                        |
| Long-term, Systemic, Dermal                                           | 12,5 mg/kg                                                                                                                                                                                                                                                                                                                                                                                 |                   |                        |
| Long-term, Systemic, Inhalation                                       | 150 mg/m3                                                                                                                                                                                                                                                                                                                                                                                  |                   |                        |
| Predicted no effect concentrations (PNECs)                            |                                                                                                                                                                                                                                                                                                                                                                                            |                   |                        |
| Components                                                            | Value                                                                                                                                                                                                                                                                                                                                                                                      | Assessment factor | Notes                  |
| 2-[bis(2-hydroxyethyl)amino]ethanol (CAS 102-71-6)                    |                                                                                                                                                                                                                                                                                                                                                                                            |                   |                        |
| Freshwater                                                            | 0,32 mg/l                                                                                                                                                                                                                                                                                                                                                                                  | 50                |                        |
| Sediment (freshwater)                                                 | 1,7 mg/kg                                                                                                                                                                                                                                                                                                                                                                                  |                   |                        |
| Soil                                                                  | 0,151 mg/kg                                                                                                                                                                                                                                                                                                                                                                                |                   |                        |
| STP                                                                   | 10 mg/l                                                                                                                                                                                                                                                                                                                                                                                    | 100               |                        |
| 8.2. Exposure controls                                                |                                                                                                                                                                                                                                                                                                                                                                                            |                   |                        |
| Appropriate engineering controls                                      | Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.         |                   |                        |
| Individual protection measures, such as personal protective equipment |                                                                                                                                                                                                                                                                                                                                                                                            |                   |                        |
| General information                                                   | Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.                                                                                                                                                                                     |                   |                        |
| Eye/face protection                                                   | Use eye protection conforming to EN 166. Wear safety glasses with side shields (or goggles).                                                                                                                                                                                                                                                                                               |                   |                        |
| Skin protection                                                       |                                                                                                                                                                                                                                                                                                                                                                                            |                   |                        |
| - Hand protection                                                     | When handling the product wear chemical-resistant gloves (standard EN 374). The breakthrough time of the glove should be longer than the total duration of product use. If work lasts longer than the breakthrough time, gloves should be changed part-way through. Nitrile gloves are recommended.                                                                                        |                   |                        |
| - Other                                                               | Not available.                                                                                                                                                                                                                                                                                                                                                                             |                   |                        |
| Respiratory protection                                                | In case of insufficient ventilation, wear suitable respiratory equipment. Chemical respirator with organic vapour cartridge. (Filter type A)                                                                                                                                                                                                                                               |                   |                        |
| Thermal hazards                                                       | Wear appropriate thermal protective clothing, when necessary.                                                                                                                                                                                                                                                                                                                              |                   |                        |
| Hygiene measures                                                      | When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.                                                                                                                                             |                   |                        |
| Environmental exposure controls                                       | Inform appropriate managerial or supervisory personnel of all environmental releases. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Fume scrubbers, filters or engineering modifications to the process equipment may be necessary to reduce emissions to acceptable levels. |                   |                        |

## SECTION 9: Physical and chemical properties

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

|                                                                 |                                |
|-----------------------------------------------------------------|--------------------------------|
| <b>Physical state</b>                                           | Liquid.                        |
| <b>Form</b>                                                     | Aerosol.                       |
| <b>Colour</b>                                                   | Red.                           |
| <b>Odour</b>                                                    | Solvent.                       |
| <b>Melting point/freezing point</b>                             | Not available.                 |
| <b>Boiling point or initial boiling point and boiling range</b> | Not available.                 |
| <b>Flammability</b>                                             | Not available.                 |
| <b>Flash point</b>                                              | > 62,0 °C (> 143,6 °F)         |
| <b>Auto-ignition temperature</b>                                | > 200 °C (> 392 °F)            |
| <b>Decomposition temperature</b>                                | Not available.                 |
| <b>pH</b>                                                       | Not applicable.                |
| <b>Kinematic viscosity</b>                                      | Not available.                 |
| <b>Solubility</b>                                               |                                |
| <b>Solubility (water)</b>                                       | Insoluble in water             |
| <b>Partition coefficient (n-octanol/water) (log value)</b>      | Not applicable.                |
| <b>Vapour pressure</b>                                          | Not available.                 |
| <b>Density and/or relative density</b>                          |                                |
| <b>Relative density</b>                                         | 0,87 g/cm <sup>3</sup> at 20°C |
| <b>Vapour density</b>                                           | Not available.                 |
| <b>Particle characteristics</b>                                 | Not available.                 |

## 9.2. Other information

**9.2.1. Information with regard to physical hazard classes** No relevant additional information available.

### 9.2.2. Other safety characteristics

#### Aerosol spray enclosed space

**Deflagration density** Not available.

**Aerosol spray ignition distance** Not available.

**Evaporation rate** Not available.

**Heat of combustion** Not available.

**VOC** 590 g/l

## SECTION 10: Stability and reactivity

**10.1. Reactivity** The product is stable and non-reactive under normal conditions of use, storage and transport.

**10.2. Chemical stability** Material is stable under normal conditions.

**10.3. Possibility of hazardous reactions** No dangerous reaction known under conditions of normal use.

**10.4. Conditions to avoid** Avoid high temperatures.

**10.5. Incompatible materials** Strong oxidising agents.

**10.6. Hazardous decomposition products** Carbon oxides.

## SECTION 11: Toxicological information

**General information** Occupational exposure to the substance or mixture may cause adverse effects.

### Information on likely routes of exposure

**Inhalation** May cause allergy or asthma symptoms or breathing difficulties if inhaled. Prolonged inhalation may be harmful.

**Skin contact** May cause an allergic skin reaction.

**Eye contact** Causes serious eye irritation.

**Ingestion** May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

**Symptoms** Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

### 11.1. Information on toxicological effects

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

| Product | Species | Test Results |
|---------|---------|--------------|
|---------|---------|--------------|

FLAW DETECTOR PENETRANT 2

**Acute**

**Oral**

ATEmix

25773,2 mg/kg bw

| Components | Species | Test Results |
|------------|---------|--------------|
|------------|---------|--------------|

Hydrocarbons, C10, aromatics, <1% naftalene

**Acute**

**Dermal**

LD50

Rabbit

> 2000 mg/kg

**Inhalation**

LC50

Rat

4688 mg/m3

**Oral**

LD50

Rat

> 5000 mg/kg

Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, < 2% aromatics

**Acute**

**Dermal**

LD50

Rabbit

> 5000 mg/kg

**Inhalation**

LC50

Rat

> 5000 mg/m3, 8 h

**Oral**

LD50

Rat

> 5000 mg/kg

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

**Serious eye damage/eye irritation** Causes serious eye irritation.

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

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

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

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

**Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended)**

Not listed.

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

**Specific target organ toxicity - single exposure** Based on available data, the classification criteria are not met.

**Specific target organ toxicity - repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Not likely, due to the form of the product.

**Mixture versus substance information** Not available.

**11.2. Information on other hazards**

**Endocrine disrupting properties**

This mixture does not contain any substances having endocrine disrupting properties with respect to human health as assessed in accordance with the criteria set out in Regulations (EC) No 1907/2006, (EU) No 2017/2100 and (EU) 2018/605, at a concentration equal to or greater than 0.1% by weight.

**Other information**

May cause allergic respiratory and skin reactions.

**SECTION 12: Ecological information**

**12.1. Toxicity** Harmful to aquatic life with long lasting effects.

| Components | Species | Test Results |
|------------|---------|--------------|
|------------|---------|--------------|

Hydrocarbons, C10, aromatics, <1% naftalene

**Aquatic**

**Acute**

Algae

EC50

Algae

> 10 mg/l

Crustacea

EC50

Daphnia

>= 3 - <= 10 mg/l

| Components                                                            | Species                                                                                                                                                                                                                                                                                                    |                     | Test Results     |
|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|------------------|
| Fish                                                                  | LC50                                                                                                                                                                                                                                                                                                       | Fish                | >= 2 - <= 5 mg/l |
| Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, < 2% aromatics |                                                                                                                                                                                                                                                                                                            |                     |                  |
| Aquatic                                                               |                                                                                                                                                                                                                                                                                                            |                     |                  |
| Acute                                                                 |                                                                                                                                                                                                                                                                                                            |                     |                  |
| Crustacea                                                             | EC50                                                                                                                                                                                                                                                                                                       | Daphnia             | 1000 mg/l, 48 h  |
| Fish                                                                  | LC50                                                                                                                                                                                                                                                                                                       | Oncorhynchus mykiss | 1000 mg/l, 96 h  |
| 12.2. Persistence and degradability                                   | No data is available on the degradability of any ingredients in the mixture.                                                                                                                                                                                                                               |                     |                  |
| 12.3. Bioaccumulative potential                                       |                                                                                                                                                                                                                                                                                                            |                     |                  |
| Partition coefficient                                                 |                                                                                                                                                                                                                                                                                                            |                     |                  |
| n-octanol/water (log Kow)                                             |                                                                                                                                                                                                                                                                                                            |                     |                  |
| Hydrocarbons, C10, aromatics, <1% naftalene                           |                                                                                                                                                                                                                                                                                                            | > 4                 |                  |
| Bioconcentration factor (BCF)                                         | Not available.                                                                                                                                                                                                                                                                                             |                     |                  |
| 12.4. Mobility in soil                                                | No data available.                                                                                                                                                                                                                                                                                         |                     |                  |
| 12.5. Results of PBT and vPvB assessment                              | This mixture does not contain substances assessed to be vPvB / PBT according to Regulation (EC) No 1907/2006, Annex XIII.                                                                                                                                                                                  |                     |                  |
| 12.6. Endocrine disrupting properties                                 | This mixture does not contain any substances having endocrine disrupting properties with respect to the environment as assessed in accordance with the criteria set out in Regulations (EC) No 1907/2006, (EU) No 2017/2100 and (EU) 2018/605, at a concentration equal to or greater than 0.1% by weight. |                     |                  |
| 12.7. Other adverse effects                                           | The product contains volatile organic compounds which have a photochemical ozone creation potential.<br>GWP: 2                                                                                                                                                                                             |                     |                  |

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

|                                     |                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Residual waste</b>               | Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).                                                                                                                                                                                        |
| <b>Contaminated packaging</b>       | Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.                                                                                                                                                              |
| <b>EU waste code</b>                | The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.                                                                                                                                                                                                                                                                                          |
| <b>Disposal methods/information</b> | Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations. |
| <b>Special precautions</b>          | Dispose in accordance with all applicable regulations.                                                                                                                                                                                                                                                                                                                                                  |

## SECTION 14: Transport information

### ADR

|                                           |                                                                         |
|-------------------------------------------|-------------------------------------------------------------------------|
| <b>14.1. UN number</b>                    | UN1950                                                                  |
| <b>14.2. UN proper shipping name</b>      | AEROSOLS, flammable                                                     |
| <b>14.3. Transport hazard class(es)</b>   |                                                                         |
| Class                                     | 2.1                                                                     |
| Subsidiary risk                           | Not assigned.                                                           |
| Label(s)                                  | 2.1                                                                     |
| Hazard No. (ADR)                          | Not assigned.                                                           |
| Tunnel restriction code                   | D                                                                       |
| ADR/RID - Classification code:            | 5F                                                                      |
| <b>14.4. Packing group</b>                | Not assigned.                                                           |
| <b>14.5. Environmental hazards</b>        | No                                                                      |
| <b>14.6. Special precautions for user</b> | Read safety instructions, SDS and emergency procedures before handling. |

### IATA

|                                      |                     |
|--------------------------------------|---------------------|
| <b>14.1. UN number</b>               | UN1950              |
| <b>14.2. UN proper shipping name</b> | Aerosols, flammable |

**14.3. Transport hazard class(es)**

**Class** 2.1  
**Subsidiary risk** Not assigned.

**14.4. Packing group** Not assigned.

**14.5. Environmental hazards** No

**ERG Code** 10L

**14.6. Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

**Other information**

**Passenger and cargo aircraft** Allowed with restrictions.  
**Cargo aircraft only** Allowed with restrictions.

**IMDG**

**14.1. UN number** UN1950

**14.2. UN proper shipping name** Aerosols, flammable

**14.3. Transport hazard class(es)**

**Class** 2.1  
**Subsidiary risk** Not assigned.

**14.4. Packing group** Not assigned.

**14.5. Environmental hazards**

**Marine pollutant** No

**EmS** F-D, S-U

**14.6. Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

**14.7. Maritime transport in bulk according to IMO instruments** Not established.

ADR; IATA; IMDG

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

**Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended**  
Not listed.

**Regulation (EU) 2019/1021 On persistent organic pollutants (recast), as amended**  
Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended**  
Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended**  
Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended**  
Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended**  
Not listed.

**Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended**  
Not listed.

**Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA**  
Not listed.

**Authorisations**

**Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended**  
Not listed.

## Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Not listed.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

Not listed.

## Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

Not listed.

## Other regulations

The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

## National regulations

Follow national regulation for work with chemical agents in accordance with Directive 98/24/EC, as amended.

## 15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

## SECTION 16: Other information

### List of abbreviations

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.  
ADR: European Agreement Concerning the International Carriage of Dangerous Goods by Road.  
AGW: Occupational threshold limit value (Arbeitsplatzgrenzwert – Germany).  
ATE: Acute Toxicity Estimate according to REGULATION (EC) No 1272/2008 (CLP).  
CAS: Chemical Abstract Service.  
Ceiling: Short Term Exposure Limit Ceiling value.  
CEN: European Committee for Standardization.  
CLP: Classification, Labeling and Packaging REGULATION (EC) No 1272/2008 on classification, labeling and packaging of substances and mixtures.  
GWP: Global Warming Potential.  
IATA: International Air Transport Association.  
IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk.  
IMDG: International Maritime Dangerous Goods.  
MAC: Maximum Allowed Concentration.  
MAK: Threshold limit values Germany (Maximale Arbeitsplatzkonzentration - DFG).  
MARPOL: International Convention for the Prevention of Pollution from Ships.  
PBT: Persistent, bioaccumulative and toxic.  
REACH: Registration, Evaluation and Authorization of Chemicals (REGULATION (EC) No 1907/2006 concerning Registration, Evaluation Authorization and Restriction of Chemicals).  
RID: Regulations concerning the international carriage of dangerous goods by rail (Règlement International concernant le transport de marchandises dangereuses par chemin de fer).  
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.  
STEL: Short term exposure limit.  
TLV: Threshold Limit Value.  
TWA: Time Weighted Average.  
VLE: Exposure Limit Value.  
VME: Exposure Average Value.  
VOC: Volatile organic compounds.  
vPvB: Very persistent and very bioaccumulative.  
STEL: Short-term Exposure Limit.

### References

Not available.

### Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

### Full text of any statements, which are not written out in full under sections 2 to 15

H302 Harmful if swallowed.  
H304 May be fatal if swallowed and enters airways.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H332 Harmful if inhaled.  
H336 May cause drowsiness or dizziness.  
H400 Very toxic to aquatic life.  
H411 Toxic to aquatic life with long lasting effects.

H413 May cause long lasting harmful effects to aquatic life.  
EUH066 Repeated exposure may cause skin dryness or cracking.

**Revision information**

None.

**Training information**

Follow training instructions when handling this material.

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