

Safety Data Sheet

according to UK REACH Regulation

DINITROL 538 PLUS

Revision date: 13.01.2025

Product code: 10730

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

1.1. Product identifier

DINITROL 538 PLUS

UFI: 07QX-00X5-700F-MD88

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

Use of the substance/mixture

Adhesion promoter

1.3. Details of the supplier of the safety data sheet

Manufacturer

Company name: DINOL GmbH
Street: Pyrmonter Strasse 76
Place: D-32676 Luegde
Telephone: + 49 (0) 5281 982980
E-mail: msds@dinol.com
Contact person: Labor
Responsible Department: msds@dinol.com

Telefax: + 49 (0) 5281 9829860

Supplier

Company name: Leading Solvent Supplies Limited
Street: Marston Business Park, Rudgate
Place: GB Tockwith, York YO26 7QF
E-mail: enquiries@leading-solvents.co.uk
Internet: www.leading-solvents.co.uk

1.4. Emergency telephone number:

Giftnotruf Berlin: +49 30 30686 700 (Beratung in Deutsch und Englisch)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

Flam. Liq. 2; H225
Eye Irrit. 2; H319
Resp. Sens. 1; H334
Skin Sens. 1; H317
STOT SE 3; H336

Full text of hazard statements: see SECTION 16.

2.2. Label elements

GB CLP Regulation

Hazard components for labelling

butanone; ethyl methyl ketone
Hexamethylene diisocyanate, oligomers
Diphenylmethanediisocyanate, isomeres and homologues
4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate
diphenylmethane-2,4'-diisocyanate

Signal word: Danger

Pictograms:



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Hazard statements

| | |
|------|--|
| H225 | Highly flammable liquid and vapour. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H336 | May cause drowsiness or dizziness. |

Precautionary statements

| | |
|----------------|--|
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. |
| 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. |
| P403+P235 | Store in a well-ventilated place. Keep cool. |

Special labelling of certain mixtures

| | |
|--------|--|
| EUH204 | Contains isocyanates. May produce an allergic reaction. |
| EUH205 | Contains epoxy constituents. May produce an allergic reaction. Restricted to professional users. As from 24 August 2023 adequate training is required before industrial or professional use. |

Labelling of packages where the contents do not exceed 125 ml

Signal word: Danger

Pictograms:



Hazard statements

H317-H334

Precautionary statements

P280

2.3. Other hazards

Endocrine disrupting properties: butanone; ethyl methyl ketone.
No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

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Relevant ingredients

| CAS No | Chemical name | | | Quantity |
|------------|---|--------------|------------------|-------------|
| | EC No | Index No | REACH No | |
| | Classification (GB CLP Regulation) | | | |
| 78-93-3 | butanone; ethyl methyl ketone | | | 65 - < 70 % |
| | 201-159-0 | 606-002-00-3 | 01-2119457290-43 | |
| | Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 EUH066 | | | |
| 108-65-6 | 2-methoxy-1-methylethyl acetate | | | 5 - < 10 % |
| | 203-603-9 | 607-195-00-7 | 01-2119475791-29 | |
| | Flam. Liq. 3, STOT SE 3; H226 H336 | | | |
| 28182-81-2 | Hexamethylene diisocyanate, oligomers | | | 5 - < 10 % |
| | 931-274-8 | | 01-2119485796-17 | |
| | Acute Tox. 4, Skin Sens. 1, STOT SE 3; H332 H317 H335 | | | |
| 123-86-4 | n-butyl acetate | | | 1 - < 5 % |
| | 204-658-1 | 607-025-00-1 | 01-2119485493-29 | |
| | Flam. Liq. 3, STOT SE 3; H226 H336 EUH066 | | | |
| 1330-20-7 | xylene | | | 1 - < 5 % |
| | 215-535-7 | 601-022-00-9 | | |
| | Flam. Liq. 3, Acute Tox. 4, Acute Tox. 4, Skin Irrit. 2; H226 H332 H312 H315 | | | |
| 9016-87-9 | Diphenylmethanediisocyanate, isomeres and homologues | | | < 1 % |
| | 618-498-9 | | | |
| | Carc. 2, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, Resp. Sens. 1, Skin Sens. 1, STOT SE 3, STOT RE 2; H351 H332 H315 H319 H334 H317 H335 H373 EUH204 | | | |
| 101-68-8 | 4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate | | | < 0.1 % |
| | 202-966-0 | | 01-2119457014-47 | |
| | Carc. 2, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, Resp. Sens. 1, Skin Sens. 1, STOT SE 3, STOT RE 2; H351 H332 H315 H319 H334 H317 H335 H373 | | | |
| 5873-54-1 | diphenylmethane-2,4'-diisocyanate | | | < 0.1 % |
| | 227-534-9 | 615-005-00-9 | 01-2119480143-45 | |
| | Carc. 2, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, Resp. Sens. 1, Skin Sens. 1, STOT SE 3, STOT RE 2; H351 H332 H315 H319 H334 H317 H335 H373 | | | |

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

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Specific Conc. Limits, M-factors and ATE

| CAS No | EC No | Chemical name | Quantity |
|------------|-----------|---|-------------|
| | | Specific Conc. Limits, M-factors and ATE | |
| 78-93-3 | 201-159-0 | butanone; ethyl methyl ketone | 65 - < 70 % |
| | | inhalation: LC50 = 12 mg/l (vapours); dermal: LD50 = 5000 mg/kg; oral: LD50 = 3300 mg/kg | |
| 108-65-6 | 203-603-9 | 2-methoxy-1-methylethyl acetate | 5 - < 10 % |
| | | inhalation: LC50 = 35,7 mg/l (vapours); oral: LD50 = 8500 mg/kg | |
| 28182-81-2 | 931-274-8 | Hexamethylene diisocyanate, oligomers | 5 - < 10 % |
| | | inhalation: LC50 = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); oral: LD50 = >5000 mg/kg | |
| 123-86-4 | 204-658-1 | n-butyl acetate | 1 - < 5 % |
| | | inhalation: LC50 = > 21 mg/l (vapours); inhalation: LC50 = >21 mg/l (dusts or mists); dermal: LD50 = > 14112 mg/kg; oral: LD50 = 10760 mg/kg | |
| 1330-20-7 | 215-535-7 | xylene | 1 - < 5 % |
| | | inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: ATE = 1100 mg/kg | |
| 9016-87-9 | 618-498-9 | Diphenylmethanediisocyanate, isomeres and homologues | < 1 % |
| | | inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: LD50 = >9400 mg/kg; oral: LD50 = >10000 mg/kg Skin Irrit. 2; H315: >= 5 - 100 Eye Irrit. 2; H319: >= 5 - 100 Resp. Sens. 1; H334: >= 0,1 - 100 STOT SE 3; H335: >= 5 - 100 | |
| 101-68-8 | 202-966-0 | 4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate | < 0.1 % |
| | | inhalation: ATE = 11 mg/l (vapours); inhalation: LC50 = 1,5 mg/l (dusts or mists); dermal: LD50 = >9400 mg/kg; oral: LD50 = > 2000 mg/kg Skin Irrit. 2; H315: >= 5 - 100 Eye Irrit. 2; H319: >= 5 - 100 Resp. Sens. 1; H334: >= 0,1 - 100 STOT SE 3; H335: >= 5 - 100 | |
| 5873-54-1 | 227-534-9 | diphenylmethane-2,4'-diisocyanate | < 0.1 % |
| | | inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: LD50 = >9400 mg/kg; oral: LD50 = >2000 mg/kg Skin Irrit. 2; H315: >= 5 - 100 Eye Irrit. 2; H319: >= 5 - 100 Resp. Sens. 1; H334: >= 0,1 - 100 STOT SE 3; H335: >= 5 - 100 | |

Further Information

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

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In all cases of doubt, or when symptoms persist, seek medical advice.

Never give anything by mouth to an unconscious person or a person with cramps.

If unconscious but breathing normally, place in recovery position and seek medical advice.

After inhalation

Remove casualty to fresh air and keep warm and at rest.

After contact with skin

Change contaminated clothing.

After contact with skin, wash immediately with plenty of water and soap.

After contact with eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing. Seek medical advice immediately.

After ingestion

If swallowed, rinse mouth with water (only if the person is conscious).

Do NOT induce vomiting.

Call a physician immediately.

Put victim at rest, cover with a blanket and keep warm.

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

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No information available.

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**Carbon dioxide (CO₂), Extinguishing powder. Water spray jet

In case of major fire and large quantities: Water spray jet, alcohol resistant foam.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

No further relevant information available.

5.3. Advice for firefighters

No special measures are necessary.

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet.

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

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

Provide adequate ventilation.

Wear personal protection equipment.

Avoid contact with skin, eyes and clothes.

Avoid breathing dust/fume/gas/mist/vapours/spray.

For emergency responders

For further specification, refer to section 8 of the SDS.

6.2. Environmental precautions

Do not allow uncontrolled discharge of product into the environment.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

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

Prevent spread over a wide area (e.g. by containment or oil barriers).

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

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

For cleaning up

Provide adequate ventilation.

Clear contaminated areas thoroughly.

Do not rinse down with water.

Other information

No information available.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage

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7.1. Precautions for safe handling

Advice on safe handling

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

If local exhaust ventilation is not possible or not sufficient, the entire working area should be ventilated by technical means.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking.

Take precautionary measures against static discharges.

Advice on general occupational hygiene

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from food, drink and animal feedingstuffs. Remove contaminated, saturated clothing immediately.

Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed.

Provide adequate ventilation as well as local exhaustion at critical locations. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hints on joint storage

No special measures are necessary.

Further information on storage conditions

maximum storage temperature: < 40°C

minimum storage temperature: > 4°C

storage temperature: 4 - 40°C

7.3. Specific end use(s)

No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

| CAS No | Substance | ppm | mg/m ³ | fibres/ml | Category | Origin |
|-----------|-----------------------------------|-----|-------------------|-----------|---------------|--------|
| 108-65-6 | 1-Methoxypropyl acetate | 50 | 274 | | TWA (8 h) | WEL |
| | | 100 | 548 | | STEL (15 min) | WEL |
| 78-93-3 | Butan-2-one (methyl ethyl ketone) | 200 | 600 | | TWA (8 h) | WEL |
| | | 300 | 899 | | STEL (15 min) | WEL |
| 123-86-4 | Butyl acetate | 150 | 724 | | TWA (8 h) | WEL |
| | | 200 | 966 | | STEL (15 min) | WEL |
| 1330-20-7 | Xylene: mixed isomers | 50 | 220 | | TWA (8 h) | WEL |
| | | 100 | 441 | | STEL (15 min) | WEL |

Biological Monitoring Guidance Values (EH40)

| CAS No | Substance | Parameter | Value | Test material | Sampling time |
|-----------|-------------------------------------|-----------------------------------|--------------|---------------|---------------|
| 78-93-3 | Butan-2-one | butan-2-one | 70 µmol/L | urine | Post shift |
| 1330-20-7 | Xylene, o-, m-, p- or mixed isomers | methyl hippuric acid (creatinine) | 650 mmol/mol | urine | Post shift |

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DNEL/DMEL values

| CAS No | Substance | | | |
|--------------------------|-----------------------------------|----------------|----------|-------------------------|
| DNEL type | | Exposure route | Effect | Value |
| 108-65-6 | 2-methoxy-1-methylethyl acetate | | | |
| Worker DNEL, long-term | | inhalation | systemic | 275 mg/m ³ |
| Worker DNEL, acute | | inhalation | local | 550 mg/m ³ |
| Worker DNEL, long-term | | dermal | systemic | 796 mg/kg bw/day |
| Consumer DNEL, long-term | | inhalation | systemic | 33 mg/m ³ |
| Consumer DNEL, acute | | inhalation | local | 33 mg/m ³ |
| Consumer DNEL, long-term | | dermal | systemic | 320 mg/kg bw/day |
| Consumer DNEL, long-term | | oral | systemic | 36 mg/kg bw/day |
| 123-86-4 | n-butyl acetate | | | |
| Worker DNEL, long-term | | inhalation | systemic | 48 mg/m ³ |
| Worker DNEL, acute | | inhalation | systemic | 600 mg/m ³ |
| Worker DNEL, long-term | | inhalation | local | 300 mg/m ³ |
| Worker DNEL, acute | | inhalation | local | 600 mg/m ³ |
| Consumer DNEL, long-term | | inhalation | systemic | 12 mg/m ³ |
| Consumer DNEL, acute | | inhalation | systemic | 300 mg/m ³ |
| Consumer DNEL, long-term | | inhalation | local | 35,7 mg/m ³ |
| Consumer DNEL, acute | | inhalation | local | 300 mg/m ³ |
| 5873-54-1 | diphenylmethane-2,4'-diisocyanate | | | |
| Worker DNEL, long-term | | inhalation | systemic | 0,05 mg/m ³ |
| Worker DNEL, acute | | inhalation | systemic | 0,10 mg/m ³ |
| Worker DNEL, long-term | | inhalation | local | 0,05 mg/m ³ |
| Worker DNEL, acute | | inhalation | local | 0,10 mg/m ³ |
| Worker DNEL, acute | | dermal | systemic | 50,0 mg/kg bw/day |
| Worker DNEL, acute | | dermal | local | 28,7 mg/person/day |
| Consumer DNEL, long-term | | inhalation | systemic | 0,025 mg/m ³ |
| Consumer DNEL, acute | | inhalation | systemic | 0,05 mg/m ³ |
| Consumer DNEL, long-term | | inhalation | local | 0,025 mg/m ³ |
| Consumer DNEL, acute | | inhalation | local | 0,05 mg/m ³ |
| Consumer DNEL, acute | | dermal | systemic | 25,0 mg/kg bw/day |
| Consumer DNEL, acute | | dermal | local | 17,2 mg/person/day |
| Consumer DNEL, acute | | oral | systemic | 20,0 mg/kg bw/day |

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PNEC values

| CAS No | Substance | |
|--|-----------------------------------|--------------|
| Environmental compartment | | Value |
| 108-65-6 | 2-methoxy-1-methylethyl acetate | |
| Freshwater | | 0,635 mg/l |
| Marine water | | 0,0635 mg/l |
| Freshwater sediment | | 3,29 mg/kg |
| Marine sediment | | 0,329 mg/kg |
| Micro-organisms in sewage treatment plants (STP) | | 100 mg/l |
| Soil | | 0,290 mg/kg |
| 123-86-4 | n-butyl acetate | |
| Freshwater | | 0,18 mg/l |
| Marine water | | 0,018 mg/l |
| Freshwater sediment | | 0,981 mg/kg |
| Marine sediment | | 0,0981 mg/kg |
| Micro-organisms in sewage treatment plants (STP) | | 35,6 mg/l |
| Soil | | 0,0903 mg/kg |
| 5873-54-1 | diphenylmethane-2,4'-diisocyanate | |
| Freshwater | | 1,0 mg/l |
| Marine water | | 0,1 mg/l |
| Micro-organisms in sewage treatment plants (STP) | | 1,0 mg/l |
| Soil | | 1,0 mg/kg |

8.2. Exposure controls



Appropriate engineering controls

Provide adequate ventilation.

If handled uncovered, arrangements with local exhaust ventilation should be used if possible.

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

Individual protection measures, such as personal protective equipment

Eye/face protection

Eye glasses with side protection (DIN EN 166)

Hand protection

Tested protective gloves must be worn (EN ISO 374):

FKM (fluoro rubber) penetration time (maximum wearing period): 480 min.

NBR (Nitrile rubber) penetration time (maximum wearing period): 480 min.

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Protective gloves have to be replaced at the first sign of deterioration.

Protect skin by using skin protective cream.

Skin protection

Wear anti-static footwear and clothing

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Respiratory protection

Work in well-ventilated zones or use proper respiratory protection.
gas filtering equipment (EN 141), Filter material/medium: A

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|-------------------------------------|
| Physical state: | Liquid |
| Colour: | black |
| Odour: | characteristic |
| Odour threshold: | not determined |
| Melting point/freezing point: | not determined |
| Boiling point or initial boiling point and boiling range: | 79 - 80,5 °C |
| Flammability: | Highly flammable liquid and vapour. |
| Lower explosion limits: | 1,8 vol. % |
| Upper explosion limits: | 11,5 vol. % |
| Flash point: | - 4 °C |
| Auto-ignition temperature: | > 300 °C |
| Decomposition temperature: | not determined |
| pH-Value: | not determined |
| Viscosity / kinematic: | not determined |
| Water solubility: | Immiscible |
| Solubility in other solvents | not determined |
| Partition coefficient n-octanol/water: | not determined |
| Vapour pressure: | 105 hPa |
| (at 20 °C) | |
| Density (at 20 °C): | 0,92 - 0,93 g/cm ³ |
| Relative vapour density: | not determined |
| Particle characteristics: | not applicable |

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

The product is: not explosive.. In use, may form flammable/explosive vapour-air mixture.

Self-ignition temperature

Solid: not applicable

Gas: not applicable

Oxidizing properties

not determined

Other safety characteristics

Evaporation rate: not determined

Solvent content: 72,3 %

Softening point: not determined

Viscosity / dynamic: not determined

Further Information

No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

No further relevant information available.

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10.2. Chemical stability

No hazardous reaction when handled and stored according to provisions.

10.3. Possibility of hazardous reactions

No known hazardous reactions.

10.4. Conditions to avoid

No further relevant information available.

10.5. Incompatible materials

No further relevant information available.

10.6. Hazardous decomposition products

No known hazardous decomposition products.

SECTION 11: Toxicological information

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

Acute toxicity

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

ATEmix tested

| | Dose | Species | Source |
|---------------------------------|--------------|---------|--------|
| LD50, dermal | 150638 mg/kg | Rabbit | |
| LC50, inhalation (vapour) (4 h) | 130 mg/l | | |

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (inhalation dust/mist) > 12,5 mg/l

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| CAS No | Chemical name | | | | |
|------------|--|-----------------------|---------|--------|--------|
| | Exposure route | Dose | Species | Source | Method |
| 78-93-3 | butanone; ethyl methyl ketone | | | | |
| | oral | LD50 mg/kg 3300 | Rat | | |
| | dermal | LD50 mg/kg 5000 | Rabbit | | |
| | inhalation (4 h) vapour | LC50 12 mg/l | Rat | | |
| 108-65-6 | 2-methoxy-1-methylethyl acetate | | | | |
| | oral | LD50 mg/kg 8500 | Rat | | |
| | inhalation (4 h) vapour | LC50 35,7 mg/l | Rat | | |
| 28182-81-2 | Hexamethylene diisocyanate, oligomers | | | | |
| | oral | LD50 mg/kg >5000 | Rat | | |
| | inhalation (4 h) vapour | LC50 11 mg/l | | | |
| | inhalation dust/mist | ATE 1,5 mg/l | | | |
| 123-86-4 | n-butyl acetate | | | | |
| | oral | LD50 mg/kg 10760 | Rat | | |
| | dermal | LD50 mg/kg > 14112 | Rabbit | | |
| | inhalation vapour | LC50 > 21 mg/l | Rat | | |
| | inhalation (4 h) dust/mist | LC50 >21 mg/l | Rat | | |
| 1330-20-7 | xylene | | | | |
| | dermal | ATE mg/kg 1100 | | | |
| | inhalation vapour | ATE 11 mg/l | | | |
| | inhalation dust/mist | ATE 1,5 mg/l | | | |
| 9016-87-9 | Diphenylmethanediisocyanate, isomeres and homologues | | | | |
| | oral | LD50 mg/kg >10000 | Rat | | |
| | dermal | LD50 mg/kg >9400 | Rabbit | | |
| | inhalation vapour | ATE 11 mg/l | | | |
| | inhalation dust/mist | ATE 1,5 mg/l | | | |
| 101-68-8 | 4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate | | | | |
| | oral | LD50 mg/kg > 2000 | Rat | | |
| | dermal | LD50 mg/kg >9400 | Rabbit | | |
| | inhalation vapour | ATE 11 mg/l | | | |
| | inhalation (4 h) dust/mist | LC50 1,5 mg/l | Rat | | |
| 5873-54-1 | diphenylmethane-2,4'-diisocyanate | | | | |
| | oral | LD50 mg/kg >2000 | Rat | | |
| | dermal | LD50 mg/kg >9400 | Rabbit | | |

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| | | | | | |
|--|----------------------|-----|----------|--|--|
| | inhalation vapour | ATE | 11 mg/l | | |
| | inhalation dust/mist | ATE | 1,5 mg/l | | |

Irritation and corrosivity

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

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

Sensitising effects

May cause allergy or asthma symptoms or breathing difficulties if inhaled. (Diphenylmethanediisocyanate, isomers and homologues; 4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate; diphenylmethane-2,4'-diisocyanate)

May cause an allergic skin reaction. (Hexamethylene diisocyanate, oligomers; Diphenylmethanediisocyanate, isomers and homologues; 4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate; diphenylmethane-2,4'-diisocyanate)

Contains epoxy constituents. May produce an allergic reaction.

Contains isocyanates. May produce an allergic reaction.

Carcinogenic/mutagenic/toxic effects for reproduction

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

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

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

STOT-single exposure

May cause drowsiness or dizziness. (butanone; ethyl methyl ketone)

STOT-repeated exposure

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

Aspiration hazard

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

Information on likely routes of exposure

No information available.

Specific effects in experiment on an animal

No information available.

Additional information on tests

No information available.

Practical experience

No information available.

11.2. Information on other hazards

Endocrine disrupting properties

Endocrine disrupting properties: butanone; ethyl methyl ketone.

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Further information

There are no data available on the preparation/mixture itself.

SECTION 12: Ecological information

12.1. Toxicity

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

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| CAS No | Chemical name | | | | | |
|------------|--|--------------|-------------|---------|--------------------------------------|--------|
| | Aquatic toxicity | Dose | [h] [d] | Species | Source | Method |
| 78-93-3 | butanone; ethyl methyl ketone | | | | | |
| | Acute fish toxicity | LC50 mg/l | 3220 | 96 h | fish | |
| | Acute crustacea toxicity | EC50 mg/l | 5000 | 48 h | | |
| 28182-81-2 | Hexamethylene diisocyanate, oligomers | | | | | |
| | Acute fish toxicity | LC50 mg/l | >100 | 96 h | | |
| | Acute crustacea toxicity | EC50 mg/l | >100 | 48 h | | |
| 123-86-4 | n-butyl acetate | | | | | |
| | Acute fish toxicity | LC50 | 18 mg/l | 96 h | Pimephales promelas (fathead minnow) | |
| | Acute algae toxicity | ErC50 | 397 mg/l | 72 h | Selenastrum capricornutum | |
| | Acute crustacea toxicity | EC50 | 44 mg/l | 48 h | Daphnia magna (Big water flea) | |
| 101-68-8 | 4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate | | | | | |
| | Acute fish toxicity | LC50 mg/l | >1000 | 96 h | fish | |
| | Acute crustacea toxicity | EC50 mg/l | >1000 | 48 h | Daphnia magna (Big water flea) | |
| | Acute bacteria toxicity | EC50 | 99 mg/l () | | | |
| 5873-54-1 | diphenylmethane-2,4'-diisocyanate | | | | | |
| | Acute fish toxicity | LC50 | 55 mg/l | 96 h | Cyprinus carpio (Common Carp) | |

12.2. Persistence and degradability

No further relevant information available.

| CAS No | Chemical name | | | |
|----------|---|-------|----|--------|
| | Method | Value | d | Source |
| | Evaluation | | | |
| 108-65-6 | 2-methoxy-1-methylethyl acetate | | | |
| | OECD 302 B | >90 % | | |
| | Readily biodegradable (according to OECD criteria). | | | |
| 123-86-4 | n-butyl acetate | | | |
| | OECD 301D/ EEC 92/69/V, C.4-E | 83% | 28 | |
| | Readily biodegradable (according to OECD criteria). | | | |

12.3. Bioaccumulative potential

No further relevant information available.

Partition coefficient n-octanol/water

| CAS No | Chemical name | Log Pow |
|----------|---------------------------------|---------|
| 108-65-6 | 2-methoxy-1-methylethyl acetate | 0,56 |
| 123-86-4 | n-butyl acetate | 2,3 |

12.4. Mobility in soil

No further relevant information available.

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12.5. Results of PBT and vPvB assessment

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

12.6. Endocrine disrupting properties

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

12.7. Other adverse effects

No further relevant information available.

Further information

There are no data available on the mixture itself.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Dispose of waste according to applicable legislation. Do not mix with other wastes.

Contaminated packaging

Remove according to the regulations.

SECTION 14: Transport information

Land transport (ADR/RID)

| | |
|--|----------------|
| 14.1. UN number or ID number: | UN 1866 |
| 14.2. UN proper shipping name: | RESIN SOLUTION |
| 14.3. Transport hazard class(es): | 3 |
| 14.4. Packing group: | II |
| Hazard label: | 3 |



| | |
|--------------------------|------|
| Classification code: | F1 |
| Special Provisions: | 640D |
| Limited quantity: | 5 L |
| Excepted quantity: | E2 |
| Transport category: | 2 |
| Hazard No: | 33 |
| Tunnel restriction code: | D/E |

Inland waterways transport (ADN)

| | |
|--|----------------|
| 14.1. UN number or ID number: | UN 1866 |
| 14.2. UN proper shipping name: | Resin solution |
| 14.3. Transport hazard class(es): | 3 |
| 14.4. Packing group: | II |
| Hazard label: | 3 |



| | |
|----------------------|------|
| Classification code: | F1 |
| Special Provisions: | 640D |
| Limited quantity: | 5 L |
| Excepted quantity: | E2 |

Marine transport (IMDG)

| | |
|--------------------------------------|---------|
| 14.1. UN number or ID number: | UN 1866 |
|--------------------------------------|---------|

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14.2. UN proper shipping name: RESIN SOLUTION
14.3. Transport hazard class(es): 3
14.4. Packing group: II
Hazard label: 3



Marine pollutant: no
Special Provisions: -
Limited quantity: 5 L
Excepted quantity: E2
EmS: F-E, S-E

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 1866
14.2. UN proper shipping name: RESIN SOLUTION
14.3. Transport hazard class(es): 3
14.4. Packing group: II
Hazard label: 3



Special Provisions: A3
Limited quantity Passenger: 1 L
Passenger LQ: Y341
Excepted quantity: E2
IATA-packing instructions - Passenger: 353
IATA-max. quantity - Passenger: 5 L
IATA-packing instructions - Cargo: 364
IATA-max. quantity - Cargo: 60 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No information available.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40, Entry 75

Directive 2004/42/EC on VOC in paints and varnishes: 72,34 %
665,5 - 672,8 g/l
Information according to Directive 2012/18/EU (SEVESO III): P5c FLAMMABLE LIQUIDS

Additional information

Observe in addition any national regulations!

Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work

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National regulatory information

Employment restrictions:

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water hazard class (D):

1 - slightly hazardous to water

Additional information

This mixture contains the following substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH: none

15.2. Chemical safety assessment

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

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 2,3,7,8,9,11,15,16.

Abbreviations and acronyms

Flam. Liq: Flammable liquids

Acute Tox: Acute toxicity

Skin Irrit: Skin irritation

Eye Irrit: Eye irritation

Resp. Sens: Respiratory sensitisation

Skin Sens: Skin sensitisation

Carc: Carcinogenicity

STOT SE: Specific target organ toxicity - single exposure

STOT RE: Specific target organ toxicity - repeated exposure

ADR: Accord européen sur le transport des marchandises dangereuses par Route

(European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

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

| Classification | Classification procedure |
|---------------------|--------------------------|
| Flam. Liq. 2; H225 | On basis of test data |
| Eye Irrit. 2; H319 | Calculation method |
| Resp. Sens. 1; H334 | Calculation method |
| Skin Sens. 1; H317 | Calculation method |
| STOT SE 3; H336 | Calculation method |

Relevant H and EUH statements (number and full text)

| | |
|------|--|
| H225 | Highly flammable liquid and vapour. |
| H226 | Flammable liquid and vapour. |
| H312 | Harmful in contact with skin. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H332 | Harmful if inhaled. |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |

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| | |
|--------|--|
| H335 | May cause respiratory irritation. |
| H336 | May cause drowsiness or dizziness. |
| H351 | Suspected of causing cancer. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| EUH066 | Repeated exposure may cause skin dryness or cracking. |
| EUH204 | Contains isocyanates. May produce an allergic reaction. |
| EUH205 | Contains epoxy constituents. May produce an allergic reaction. |

Further Information

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

This safety data sheet complies with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

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