

SAFETY DATA SHEET



Date of issue/Date of revision : 27 August 2024 Version : 1.01

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

1.1 Product identifier

Product name : SIGMALINE 855 HARDENER
Product code : 00346741
Product type : Liquid.
Other means of identification : Not available.

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

Product use : Professional applications, Used by spraying.
Use of the substance/mixture : Coating.; Hardener.
Uses advised against : Product is not intended, labelled or packaged for consumer use.

1.3 Details of the supplier of the safety data sheet

PPG Coatings Belgium BV/SRL
Tweemontstraat 104
B-2100 Deurne
Belgium
Telephone +32-33606311
Fax +32-33606435

e-mail address of person responsible for this SDS : Product.Stewardship.EMEA@ppg.com

1.4 Emergency telephone number

Supplier
+31 20 4075210

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture
Classification according to UK CLP/GHS

Acute Tox. 4, H332
Skin Irrit. 2, H315
Eye Irrit. 2, H319
Resp. Sens. 1, H334
Skin Sens. 1, H317
Carc. 2, H351
STOT SE 3, H335
STOT RE 2, H373

The product is classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.
See Section 16 for the full text of the H statements declared above.
See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :

Signal word : Danger

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SECTION 2: Hazards identification

Hazard statements : Causes skin irritation.
 May cause an allergic skin reaction.
 Causes serious eye irritation.
 Harmful if inhaled.
 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 May cause respiratory irritation.
 Suspected of causing cancer.
 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Prevention : Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face protection. Do not breathe vapour.

Response : IF INHALED: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor.

Storage : Not applicable.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.
 P202, P280, P260, P304 + P340, P342 + P311, P501

Supplemental label elements : Contains isocyanates. May produce an allergic reaction.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : As from August 24 2023 adequate training is required before industrial or professional use.

Special packaging requirements

Containers to be fitted with child-resistant fastenings : Not applicable.

Tactile warning of danger : Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

| Product/ingredient name | Identifiers | % | Classification | Type |
|--|---|-----------|---|---------|
| Isocyanic acid, polymethylenepolyphenylene ester | REACH #: 01-2119457024-46 CAS: 9016-87-9 | ≥75 - ≤90 | Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373 (inhalation) | [1] [2] |
| 4,4'-methylenediphenyl diisocyanate | REACH #: 01-2119457014-47 EC: 202-966-0 CAS: 101-68-8 Index: 615-005-00-9 | ≥10 - ≤15 | Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 | [1] [2] |

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SECTION 3: Composition/information on ingredients

| | | | | |
|---|--|-----------|---|---------|
| o-(p-isocyanatobenzyl)phenyl isocyanate | REACH #: 01-2119480143-45 EC: 227-534-9 CAS: 5873-54-1 Index: 615-005-00-9 | ≥10 - ≤15 | Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373 | [1] [2] |
| 2,2'-methylenediphenyl diisocyanate | REACH #: 01-2119927323-43 EC: 219-799-4 CAS: 2536-05-2 Index: 615-005-00-9 | <0.10 | Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373 See Section 16 for the full text of the H statements declared above. | [1] [2] |

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in Section 8.

SUB codes represent substances without registered CAS Numbers.

SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact** : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.
- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.
- Ingestion** : If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do NOT induce vomiting.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Harmful if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

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SECTION 4: First aid measures

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
 pain or irritation
 watering
 redness
- Inhalation** : Adverse symptoms may include the following:
 respiratory tract irritation
 coughing
 wheezing and breathing difficulties
 asthma
- Skin contact** : Adverse symptoms may include the following:
 irritation
 redness
- Ingestion** : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : In a fire or if heated, a pressure increase will occur and the container may burst.
- Hazardous combustion products** : Decomposition products may include the following materials:
 carbon oxides
 nitrogen oxides
 Cyanate and isocyanate.
 hydrogen cyanide

5.3 Advice for firefighters

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

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SECTION 6: Accidental release measures

6.2 Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Special provisions : Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Place in a suitable container. The contaminated area should be cleaned immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises (by volume): water (45 parts), ethanol or isopropyl alcohol (50 parts) and concentrated (d: 0,880) ammonia solution (5 parts). A non-flammable alternative is sodium carbonate (5 parts) and water (95 parts). Add the same decontaminant to the remnants and let stand for several days until no further reaction in an unsealed container. Once this stage is reached, close container and dispose of according to local regulations (see section 13). Do not allow to enter drains or watercourses. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitisation problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

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SECTION 7: Handling and storage

Store between the following temperatures: 0 to 35°C (32 to 95°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Precautions should be taken to minimise exposure to atmospheric humidity or water.

CO₂ will be formed, which, in closed containers, could result in pressurisation.

7.3 Specific end use(s)

See Section 1.2 for Identified uses.

SECTION 8: Exposure controls/personal protection**8.1 Control parameters**

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

Occupational exposure limits

| Product/ingredient name | Exposure limit values |
|--|--|
| Isocyanic acid, polymethylenepolyphenylene ester | EH40/2005 WELs (United Kingdom (UK), 1/2020). [isocyanates, all, except methyl isocyanate] Inhalation sensitiser. STEL: 0.07 mg/m ³ , (as -NCO) 15 minutes. TWA: 0.02 mg/m ³ , (as -NCO) 8 hours. |
| 4,4'-methylenediphenyl diisocyanate | EH40/2005 WELs (United Kingdom (UK), 1/2020). [isocyanates, all, except methyl isocyanate] Inhalation sensitiser. STEL: 0.07 mg/m ³ , (as -NCO) 15 minutes. TWA: 0.02 mg/m ³ , (as -NCO) 8 hours. |
| o-(p-isocyanatobenzyl)phenyl isocyanate | EH40/2005 WELs (United Kingdom (UK), 1/2020). [isocyanates, all, except methyl isocyanate] Inhalation sensitiser. STEL: 0.07 mg/m ³ , (as -NCO) 15 minutes. TWA: 0.02 mg/m ³ , (as -NCO) 8 hours. |
| 2,2'-methylenediphenyl diisocyanate | EH40/2005 WELs (United Kingdom (UK), 1/2020). [isocyanates, all, except methyl isocyanate] Inhalation sensitiser. STEL: 0.07 mg/m ³ , (as -NCO) 15 minutes. TWA: 0.02 mg/m ³ , (as -NCO) 8 hours. |
| Product/ingredient name | Exposure indices |

Recommended monitoring procedures : Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

| Product/ingredient name | Type | Exposure | Value | Population | Effects |
|--|------|-----------------------|-------------------------|--|---------|
| Isocyanic acid, polymethylenepolyphenylene ester | DNEL | Long term Inhalation | 0.05 mg/m ³ | Workers | Local |
| | DNEL | Short term Inhalation | 0.1 mg/m ³ | Workers General population [Consumers] | Local |
| | DNEL | Long term Inhalation | 0.025 mg/m ³ | | Local |
| 4,4'-methylenediphenyl diisocyanate | DNEL | Short term Inhalation | 0.05 mg/m ³ | General population [Consumers] | Local |
| | DNEL | Long term Inhalation | 0.05 mg/m ³ | Workers | Local |
| | DNEL | Short term Inhalation | 0.1 mg/m ³ | Workers | Local |
| | DNEL | Long term Inhalation | 0.025 mg/m ³ | General | Local |

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SECTION 8: Exposure controls/personal protection

| | | | | | |
|---|-----------------------|-------------------------|-------------------------|--------------------------------|----------|
| o-(p-isocyanatobenzyl)phenyl isocyanate | DNEL | Short term Inhalation | 0.05 mg/m ³ | population [Consumers] | Local |
| | DNEL | Short term Inhalation | 0.1 mg/m ³ | General population [Consumers] | Local |
| | DNEL | Long term Inhalation | 0.05 mg/m ³ | Workers | Systemic |
| | DNEL | Short term Dermal | 50 mg/kg bw/day | Workers | Systemic |
| | DNEL | Short term Dermal | 28.7 mg/cm ² | Workers | Local |
| | DNEL | Short term Dermal | 25 mg/kg bw/day | General population [Consumers] | Systemic |
| | DNEL | Short term Inhalation | 0.05 mg/m ³ | General population [Consumers] | Systemic |
| | DNEL | Short term Oral | 20 mg/kg bw/day | General population [Consumers] | Systemic |
| | DNEL | Short term Dermal | 17.2 mg/cm ² | General population [Consumers] | Local |
| | DNEL | Long term Inhalation | 0.025 mg/m ³ | General population [Consumers] | Systemic |
| 2,2'-methylenediphenyl diisocyanate | DNEL | Long term Inhalation | 0.025 mg/m ³ | General population | Local |
| | DNEL | Short term Inhalation | 0.05 mg/m ³ | General population | Local |
| | DNEL | Long term Inhalation | 0.05 mg/m ³ | Workers | Local |
| | DNEL | Short term Inhalation | 0.1 mg/m ³ | Workers | Local |
| | DNEL | Short term Dermal | 28.7 mg/cm ² | Workers | Local |
| | DNEL | Long term Inhalation | 0.025 mg/m ³ | General population | Local |
| | DNEL | Short term Inhalation | 0.05 mg/m ³ | General population | Local |
| | DNEL | Long term Inhalation | 0.05 mg/m ³ | Workers | Local |
| | DNEL | Short term Inhalation | 0.1 mg/m ³ | Workers | Local |
| | DNEL | Short term Dermal | 28.7 mg/cm ² | Workers | Local |
| DNEL | Long term Inhalation | 0.025 mg/m ³ | General population | Local | |
| DNEL | Short term Inhalation | 0.05 mg/m ³ | General population | Local | |
| DNEL | Long term Inhalation | 0.05 mg/m ³ | Workers | Local | |
| DNEL | Short term Inhalation | 0.1 mg/m ³ | Workers | Local | |
| DNEL | Short term Dermal | 28.7 mg/cm ² | Workers | Local | |
| DNEL | Long term Inhalation | 0.025 mg/m ³ | General population | Local | |
| DNEL | Short term Inhalation | 0.05 mg/m ³ | General population | Local | |
| DNEL | Long term Inhalation | 0.05 mg/m ³ | Workers | Local | |
| DNEL | Short term Inhalation | 0.1 mg/m ³ | Workers | Local | |

PNECs

| Product/ingredient name | Compartment Detail | Value | Method Detail |
|--|------------------------|-------------|--------------------------|
| Isocyanic acid, polymethylenepolyphenylene ester | Fresh water | 1 mg/l | Assessment Factors |
| | Marine water | 0.1 mg/l | Assessment Factors |
| | Sewage Treatment Plant | 1 mg/l | Assessment Factors |
| | Soil | 1 mg/kg dwt | Assessment Factors |
| 4,4'-methylenediphenyl diisocyanate | Fresh water | 1 mg/l | Assessment Factors |
| | Marine water | 0.1 mg/l | Assessment Factors |
| | Sewage Treatment Plant | 1 mg/l | Assessment Factors |
| | Soil | 1 mg/kg dwt | Assessment Factors |
| o-(p-isocyanatobenzyl)phenyl isocyanate | Fresh water | 1 mg/l | Assessment Factors |
| | Marine water | 0.1 mg/l | Assessment Factors |
| | Sewage Treatment Plant | 1 mg/l | Assessment Factors |
| | Soil | 1 mg/kg dwt | Equilibrium Partitioning |
| 2,2'-methylenediphenyl diisocyanate | Fresh water | 1 mg/l | Assessment Factors |
| | Marine water | 0.1 mg/l | Assessment Factors |
| | Sewage Treatment Plant | 1 mg/l | Assessment Factors |
| | Soil | 1 mg/kg dwt | Assessment Factors |

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SECTION 8: Exposure controls/personal protection

8.2 Exposure controls

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time greater than 480 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 2 or higher (breakthrough time greater than 30 minutes according to EN 374) is recommended. The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.

butyl rubber

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use an air-fed respirator unless a site-specific assessment determines that an air-fed respirator is not necessary, in which case the results of the risk assessment should be utilized to determine whether respiratory protection is necessary and what type of protection is appropriate. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Wear a respirator conforming to EN140. Filter type: organic vapour (Type A) and particulate filter P3

Restrictions on use : Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Liquid.
Colour : Colourless.

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SECTION 9: Physical and chemical properties

Odour : Amine-like.
Odour threshold : Not available.
Melting point/freezing point : Not available.
Initial boiling point and boiling range : >37.78°C (>100°F)
Flammability (solid, gas) : liquid
Upper/lower flammability or explosive limits : Not available.
Flash point : Closed cup: Not applicable.
Auto-ignition temperature :

| Ingredient name | °C | °F | Method |
|-------------------------------------|------|---------|---------|
| 4,4'-methylenediphenyl diisocyanate | >601 | >1113.8 | EU A.15 |

pH : Not applicable.
 Not applicable. insoluble in water.
Viscosity : Kinematic (40°C): >21 mm²/s
Solubility(ies) :

| Media | Result |
|------------|-------------|
| cold water | Not soluble |

Miscible with water : No.
Partition coefficient: n-octanol/ water : Not applicable.
Vapour pressure :

| Ingredient name | Vapour Pressure at 20°C | | | Vapour pressure at 50°C | | |
|---------------------------------------|-------------------------|----------|--------|-------------------------|-----|--------|
| | mm Hg | kPa | Method | mm Hg | kPa | Method |
| (p-isocyanatobenzyl)phenyl isocyanate | 0.00001 | 0.000013 | EU A.4 | | | |

Relative density : 1.23
Explosive properties : The product itself is not explosive, but the formation of an explosible mixture of vapour or dust with air is possible.
Oxidising properties : Product does not present an oxidizing hazard.
Particle characteristics
Median particle size : Not applicable.

SECTION 10: Stability and reactivity

- 10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- 10.2 Chemical stability** : The product is stable.
- 10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- 10.4 Conditions to avoid** : In a fire, hazardous decomposition products may be produced.
 Refer to protective measures listed in sections 7 and 8.
- 10.5 Incompatible materials** : Keep away from: oxidising agents, strong alkalis, strong acids, amines, alcohols, water.
 Uncontrolled exothermic reactions occur with amines and alcohols.

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SECTION 10: Stability and reactivity

10.6 Hazardous decomposition products : Depending on conditions, decomposition products may include the following materials: Cyanate and isocyanate. carbon oxides nitrogen oxides hydrogen cyanide

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|--|------------------------|------------|-----------------------|----------|
| Isocyanic acid, polymethylenepolyphenylene ester | LD50 Dermal | Rabbit | >9400 mg/kg | - |
| 4,4'-methylenediphenyl diisocyanate | LD50 Oral LD50 Oral | Rat Rat | 49 g/kg 9200 mg/kg | - - |

Conclusion/Summary : There are no data available on the mixture itself.

Acute toxicity estimates

| Product/ingredient name | Oral (mg/kg) | Dermal (mg/kg) | Inhalation (gases) (ppm) | Inhalation (vapours) (mg/l) | Inhalation (dusts and mists) (mg/l) |
|--|--------------|----------------|--------------------------|-----------------------------|-------------------------------------|
| SIGMALINE 855 HARDENER | N/A | N/A | N/A | N/A | 1.5 |
| Isocyanic acid, polymethylenepolyphenylene ester | 49000 | N/A | N/A | N/A | 1.5 |
| 4,4'-methylenediphenyl diisocyanate | 9200 | N/A | N/A | N/A | 1.5 |
| o-(p-isocyanatobenzyl)phenyl isocyanate | N/A | N/A | N/A | N/A | 1.5 |
| 2,2'-methylenediphenyl diisocyanate | N/A | N/A | N/A | N/A | 1.5 |

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|-------------------------------------|-----------------|---------|-------|----------|-------------|
| 4,4'-methylenediphenyl diisocyanate | Skin - Irritant | Rabbit | - | - | - |

Conclusion/Summary : Not available.

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitisation

| Product/ingredient name | Route of exposure | Species | Result |
|-------------------------------------|-------------------|------------|-------------|
| 4,4'-methylenediphenyl diisocyanate | Respiratory | Guinea pig | Sensitising |
| | skin | Mouse | Sensitising |

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|-------------------------------------|----------------------------|---------|--------------------------|--------------------------|
| 4,4'-methylenediphenyl diisocyanate | Positive - Inhalation - TC | Rat | 0 to 6 mg/m ³ | 2 years; 5 days per week |

Conclusion/Summary : There are no data available on the mixture itself.

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Code : 00346741

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SECTION 11: Toxicological informationTeratogenicity**Conclusion/Summary** : There are no data available on the mixture itself.Specific target organ toxicity (single exposure)

| Product/ingredient name | Category | Route of exposure | Target organs |
|--|------------|-------------------|------------------------------|
| Isocyanic acid, polymethylenepolyphenylene ester | Category 3 | - | Respiratory tract irritation |
| 4,4'-methylenediphenyl diisocyanate | Category 3 | - | Respiratory tract irritation |
| o-(p-isocyanatobenzyl)phenyl isocyanate | Category 3 | - | Respiratory tract irritation |
| 2,2'-methylenediphenyl diisocyanate | Category 3 | - | Respiratory tract irritation |

Specific target organ toxicity (repeated exposure)

| Product/ingredient name | Category | Route of exposure | Target organs |
|--|------------|-------------------|---------------|
| Isocyanic acid, polymethylenepolyphenylene ester | Category 2 | inhalation | - |
| 4,4'-methylenediphenyl diisocyanate | Category 2 | - | - |
| o-(p-isocyanatobenzyl)phenyl isocyanate | Category 2 | - | - |
| 2,2'-methylenediphenyl diisocyanate | Category 2 | - | - |

Aspiration hazard

Not available.

Information on likely routes of exposure : Not available.Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Harmful if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
wheezing and breathing difficulties
asthma
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

Delayed and immediate effects as well as chronic effects from short and long-term exposureShort term exposure**Potential immediate effects** : Not available.**Potential delayed effects** : Not available.Long term exposure

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Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary : Not available.

General : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

12.3 Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|--|--------------------|-----|-----------|
| 4,4'-methylenediphenyl diisocyanate | 4.51 | - | High |
| o-(p-isocyanatobenzyl) phenyl isocyanate | 4.51 | - | High |
| 2,2'-methylenediphenyl diisocyanate | 5.22 | - | High |

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

| | |
|-------------------------------|--|
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SECTION 13: Disposal considerations

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : Yes.

Waste catalogue

| Waste code | Waste designation |
|------------|---|
| 08 01 11* | waste paint and varnish containing organic solvents or other hazardous substances |

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

| Type of packaging | Waste catalogue |
|-------------------|--------------------------|
| Container | 15 01 06 mixed packaging |

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

| | ADR/RID | ADN | IMDG | IATA |
|--|-----------------|-----------------|-----------------|-----------------|
| 14.1 UN number | Not regulated. | Not regulated. | Not regulated. | Not regulated. |
| 14.2 UN proper shipping name | - | - | - | - |
| 14.3 Transport hazard class(es) | - | - | - | - |
| 14.4 Packing group | - | - | - | - |
| 14.5 Environmental hazards | No. | No. | No. | No. |
| Marine pollutant substances | Not applicable. | Not applicable. | Not applicable. | Not applicable. |

Additional information

ADR/RID : None identified.
ADN : None identified.
IMDG : None identified.
IATA : None identified.

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to IMO instruments : Not available.

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SECTION 15: Regulatory information

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

UK (GB)/REACH

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Ozone depleting substances

Not listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : As from August 24 2023 adequate training is required before industrial or professional use.

Seveso Directive

This product is not controlled under the Seveso Directive.

SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

Abbreviations and acronyms

: ATE = Acute Toxicity Estimate
 GB CLP = UK CLP (EC No 1272/2008) on the Classification, Labelling and Packaging of Substances and Mixtures as amended by (EU Exit) Regulations 2019 No. 720 and amendments
 DMEL = Derived Minimal Effect Level
 DNEL = Derived No Effect Level
 EUH statement = GB CLP-specific Hazard statement
 N/A = Not available
 PBT = Persistent, Bioaccumulative and Toxic
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number
 SGG = Segregation Group
 vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification

| Classification | Justification |
|---------------------|--------------------|
| Acute Tox. 4, H332 | Calculation method |
| Skin Irrit. 2, H315 | Calculation method |
| Eye Irrit. 2, H319 | Calculation method |
| Resp. Sens. 1, H334 | Calculation method |
| Skin Sens. 1, H317 | Calculation method |
| Carc. 2, H351 | Calculation method |
| STOT SE 3, H335 | Calculation method |
| STOT RE 2, H373 | Calculation method |

Full text of abbreviated H statements

| | |
|------|--|
| 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. |
| H335 | May cause respiratory irritation. |
| H351 | Suspected of causing cancer. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |

Full text of classifications

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SECTION 16: Other information

| | |
|---------------|---|
| Acute Tox. 4 | ACUTE TOXICITY - Category 4 |
| Carc. 2 | CARCINOGENICITY - Category 2 |
| Eye Irrit. 2 | SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 |
| Resp. Sens. 1 | RESPIRATORY SENSITISATION - Category 1 |
| Skin Irrit. 2 | SKIN CORROSION/IRRITATION - Category 2 |
| Skin Sens. 1 | SKIN SENSITISATION - Category 1 |
| STOT RE 2 | SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2 |
| STOT SE 3 | SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3 |

History

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Prepared by : EHS

Version : 1.01

Disclaimer

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