

Hranitherm 320 PUR LC

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Issue date: 5/2/2024

Version: 1.0

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

1.1. Product identifier

Product form : Mixture
Product name : Hranitherm 320 PUR LC
UFI : 4HU2-N04P-300M-TWAN

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

1.2.1. Relevant identified uses

Main use category : Industrial use, Professional use
Use of the substance/mixture : Hot melt adhesives

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Distributor

Hranipex Czech Republic k.s.
J. Rýznerové 97, Komorovice
CZ 396 01 Humpolec
Czech Republic
T +420 565 501 211

cz-hranipex@hranipex.com, www.hranipex.cz

E-mail address of competent person responsible for the SDS :
sds@regartis.com

Supplier

Hranipex Ltd.
Unit 2 Radial Park, Birmingham Business Park
Birmingham, B37 7YN
United Kingdom
T +44 121 767 9180, F 0121 782 6250
uk-hranipex@hranipex.com, www.hranipex.co.uk

1.4. Emergency telephone number

| Country/Area | Organisation/Company | Address | Emergency number | Comment |
|----------------|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|------------------|-----------------------------------|
| United Kingdom | National Poisons Information Service (Birmingham Centre) City Hospital | Dudley Road B18 7QH | 0344 892 0111 | Only for healthcare professionals |
| United Kingdom | National Poisons Information Service (Cardiff Centre) University Hospital Llandough | Penlan Road CF64 2XX | 0344 892 0111 | Only for healthcare professionals |
| United Kingdom | National Poisons Information Service (Edinburgh Centre) Royal Infirmary of Edinburgh | Little France Crescent EH16 4SA | 0344 892 0111 | Only for healthcare professionals |
| United Kingdom | Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust | Avonley Road SE14 5ER | +44 20 7188 7188 | |
| United Kingdom | National Poisons Information Service (Newcastle Centre) Regional Drugs and Therapeutics Centre | 16/17 Framlington Place Newcastle-upon-Tyne NE2 4AB | 0344 892 0111 | Only for healthcare professionals |
| United Kingdom | National Poisons Information Service (Belfast Centre) Royal Victoria Hospital | Grosvenor Road BT12 6BA | 0344 892 0111 | Only for healthcare professionals |

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Skin sensitisation, Category 1 H317

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

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Adverse physicochemical, human health and environmental effects

May cause an allergic skin reaction.

2.2. Label elements

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

| | | |
|--------------------------------|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hazard pictograms (CLP) | : |  |
| | | GHS07 |
| Signal word (CLP) | : | Warning |
| Contains | : | Aromatic isocyanates - prepolymers; 2,4-bis[(dodecylsulfanyl)methyl]-6-methylphenol; o-(p-isocyanatobenzyl)phenyl isocyanate; 4-methyl-m-phenylene diisocyanate |
| Hazard statements (CLP) | : | H317 - May cause an allergic skin reaction. |
| Precautionary statements (CLP) | : | P261 - Avoid breathing dust, mist. P272 - Contaminated work clothing should not be allowed out of the workplace. P280 - Wear protective gloves, protective clothing, eye protection, face protection. P333+P313 - If skin irritation or rash occurs: Get medical advice/attention. P362+P364 - Take off contaminated clothing and wash it before reuse. P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. |

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Aromatic isocyanates - prepolymers | CAS-No.: 127821-00-5 | 2.4 – 4 | Eye Irrit. 2, H319 Skin Sens. 1, H317 |
| 2,4-bis[(dodecylsulfanyl)methyl]-6-methylphenol | CAS-No.: 110675-26-8 EC-No.: 438-600-3 REACH-no: 01-0000018334-73 | 0.1 – 0.5 | Skin Sens. 1, H317 Aquatic Chronic 3, H412 |
| o-(p-isocyanatobenzyl)phenyl isocyanate; diphenylmethane-2,4'-diisocyanate | CAS-No.: 5873-54-1 EC-No.: 227-534-9 EC Index-No.: 615-005-00-9 REACH-no: 01-2119480143-45 | < 0.1 | Carc. 2, H351 Acute Tox. 4 (Inhalation), H332 (ATE=1.5 mg/l/4h) STOT RE 2, H373 Eye Irrit. 2, H319 STOT SE 3, H335 Skin Irrit. 2, H315 Resp. Sens. 1, H334 Skin Sens. 1, H317 |

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| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4-methyl-m-phenylene diisocyanate; toluene-2,6-diisocyanate | CAS-No.: 584-84-9 EC-No.: 209-544-5 EC Index-No.: 615-006-00-4 REACH-no: 01-2119486974-18 | < 0.05 | Carc. 2, H351 Acute Tox. 2 (Inhalation), H330 Eye Irrit. 2, H319 STOT SE 3, H335 Skin Irrit. 2, H315 Resp. Sens. 1, H334 Skin Sens. 1, H317 Aquatic Chronic 3, H412 |

Specific concentration limits:

| Name | Product identifier | Specific concentration limits (%) |
|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| o-(p-isocyanatobenzyl)phenyl isocyanate; diphenylmethane-2,4'-diisocyanate | CAS-No.: 5873-54-1 EC-No.: 227-534-9 EC Index-No.: 615-005-00-9 REACH-no: 01-2119480143-45 | (0.1 ≤ C < 100) Resp. Sens. 1, H334 (5 ≤ C < 100) Eye Irrit. 2, H319 (5 ≤ C < 100) Skin Irrit. 2, H315 (5 ≤ C < 100) STOT SE 3, H335 |
| 4-methyl-m-phenylene diisocyanate; toluene-2,6-diisocyanate | CAS-No.: 584-84-9 EC-No.: 209-544-5 EC Index-No.: 615-006-00-4 REACH-no: 01-2119486974-18 | (0.1 ≤ C ≤ 100) Resp. Sens. 1, H334 |

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

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| First-aid measures general | : If you feel unwell, seek medical advice. |
| First-aid measures after inhalation | : Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a poison center or a doctor. |
| First-aid measures after skin contact | : Take off immediately all contaminated clothing and wash it before reuse. In case the melted product gets on skin, cool immediately with cold water. . Do not remove clothing adhering to the skin. If case of redness or irritation, call a doctor. |
| First-aid measures after eye contact | : Cool rapidly with cold water after contact with molten product. Consult an eye specialist. |
| First-aid measures after ingestion | : Do not induce vomiting. Call a poison center or a doctor if you feel unwell. If possible, show the doctor this safety data sheet. Failing this, show the doctor the packaging or label. |

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

| | |
|-------------------------------------|----------------------------------------|
| Symptoms/effects after skin contact | : May cause an allergic skin reaction. |
| Symptoms/effects after eye contact | : None under normal conditions. |
| Symptoms/effects after ingestion | : None under normal conditions. |

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 | : Water. Carbon dioxide. |
| Unsuitable extinguishing media | : None. |

5.2. Special hazards arising from the substance or mixture

| | |
|----------------------------|----------------------------------------|
| Reactivity in case of fire | : Fire will produce dense black smoke. |
|----------------------------|----------------------------------------|

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| | |
|--------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Hazardous decomposition products in case of fire | : Toxic fumes may be released. Do not breathe fumes from fires or vapours from decomposition. |
|--------------------------------------------------|-----------------------------------------------------------------------------------------------|

5.3. Advice for firefighters

| | |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Firefighting instructions | : Fight fire from safe distance and protected location. If possible, remove the products within undamaged containers from danger area. Do not allow run-off from fire fighting to enter drains or water courses. |
| Protection during firefighting | : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. Normal equipment for firefighters i.e. fire kit (EN 469), gloves (EN 659) and boots (HO specification A29 and A30) in combination with breathing apparatus (EN 137). |

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

| | |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General measures | : Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage. |
| 6.1.1. For non-emergency personnel | |
| Protective equipment | : Wear recommended personal protective equipment. |
| Emergency procedures | : Ventilate spillage area. Avoid contact with skin and eyes. Avoid breathing dust, mist. |
| 6.1.2. For emergency responders | |
| Protective equipment | : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection". |
| Emergency procedures | : Evacuate unnecessary personnel. |

6.2. Environmental precautions

Do not allow the mixture to enter into sewer, water system (underground water, surface water) or soil. If the product contaminates rivers and lakes or drains, inform respective authorities.

6.3. Methods and material for containment and cleaning up

| | |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Methods for cleaning up | : If melted: allow liquid to solidify before taking it up. Take up mechanically (sweeping, shovelling) and collect in suitable container for disposal. Wash off with plenty of water. |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

6.4. Reference to other sections

Concerning personal protective equipment to use, see section 8. Concerning disposal elimination after cleaning, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

| | |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Precautions for safe handling | : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Avoid breathing dust, mist. Wear personal protective equipment. Handle and open container with care. |
| Hygiene measures | : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product. |

7.2. Conditions for safe storage, including any incompatibilities

| | |
|--------------------|------------------------------------------------------------------------------------------|
| Storage conditions | : Store in a dry, cool and well-ventilated place. Protect from heat and direct sunlight. |
|--------------------|------------------------------------------------------------------------------------------|

7.3. Specific end use(s)

No additional information available

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

| o-(p-isocyanatobenzyl)phenyl isocyanate; diphenylmethane-2,4'-diisocyanate (5873-54-1) | |
|----------------------------------------------------------------------------------------|----------------|
| DNEL/DMEL (Workers) | |
| Acute - local effects, inhalation | 0.1 mg/m³ |
| Long-term - local effects, inhalation | 0.05 mg/m³ |
| DNEL/DMEL (General population) | |
| Acute - local effects, inhalation | 0.05 mg/m³ |
| Long-term - local effects, inhalation | 0.025 mg/m³ |
| PNEC (Water) | |
| PNEC aqua (freshwater) | 3.7 µg/L |
| PNEC aqua (marine water) | 0.37 µg/L |
| PNEC aqua (intermittent, freshwater) | 37 µg/L |
| PNEC (Sediment) | |
| PNEC sediment (freshwater) | 11.7 mg/kg dwt |
| PNEC sediment (marine water) | 1.17 mg/kg dwt |
| PNEC (Soil) | |
| PNEC soil | 2.33 mg/kg dwt |
| 4-methyl-m-phenylene diisocyanate; toluene-2,6-di-isocyanate (584-84-9) | |
| DNEL/DMEL (General population) | |
| Acute - local effects, inhalation | 0.14 mg/m³ |
| Long-term - local effects, inhalation | 0.035 mg/m³ |
| PNEC (Water) | |
| PNEC aqua (freshwater) | 0.013 mg/l |
| PNEC aqua (marine water) | 0.00125 mg/l |
| PNEC (Soil) | |
| PNEC soil | 1 mg/kg dwt |
| PNEC (STP) | |
| PNEC sewage treatment plant | 1 mg/l |

8.1.5. Control banding

No additional information available

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8.2. Exposure controls

8.2.1. Appropriate engineering controls

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

8.2.2. Personal protection equipment

8.2.2.1. Eye and face protection

Eye protection:
Use eye protection according to EN 166. tightly fitting safety goggles

8.2.2.2. Skin protection

Skin and body protection:
Wear suitable coveralls to prevent exposure to the skin. Safety shoes

Hand protection:
Chemical resistant gloves (according to European standard ISO 374-1 or equivalent). Butyl rubber. Nitrile rubber. Neoprene. PVC gloves

8.2.2.3. Respiratory protection

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

8.2.2.4. Thermal hazards

Thermal hazard protection:
Use insulated gloves when handling this material hot.

8.2.3. Environmental exposure controls

Environmental exposure controls:
Avoid release to the environment.

Other information:
Always wash hands after handling the product. Avoid contact with skin and eyes. Remove all contaminated clothing and footwear. Handle in accordance with good industrial hygiene and safety procedures.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|-------------------------------------------------|-----------------------|
| Physical state | : Solid |
| Colour | : Natural colour. |
| Odour | : Not available |
| Odour threshold | : Not available |
| Melting point | : Not available |
| Freezing point | : Not applicable |
| Boiling point | : Not available |
| Flammability | : Non flammable. |
| Lower explosion limit | : Not applicable |
| Upper explosion limit | : Not applicable |
| Flash point | : Not applicable |
| Auto-ignition temperature | : Not applicable |
| Decomposition temperature | : Not available |
| pH | : Not available |
| pH solution | : Not available |
| Viscosity, kinematic | : Not applicable |
| Viscosity, dynamic | : 60000 mPa·s @140 °C |
| Solubility | : Reacts with water. |
| Partition coefficient n-octanol/water (Log Kow) | : Not available |
| Vapour pressure | : Not available |
| Vapour pressure at 50°C | : Not available |
| Density | : Not available |
| Relative density | : Not available |

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| | |
|---------------------------------|------------------|
| Relative vapour density at 20°C | : Not applicable |
| Particle size | : Not available |

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

| | |
|-----------------------------|-------------------------------------------------------------------------------------|
| Acute toxicity (oral) | : Not classified (Based on available data, the classification criteria are not met) |
| Acute toxicity (dermal) | : Not classified (Based on available data, the classification criteria are not met) |
| Acute toxicity (inhalation) | : Not classified (Based on available data, the classification criteria are not met) |

2,4-bis[(dodecylsulfanyl)methyl]-6-methylphenol (110675-26-8)

| | |
|--------------------|-----------------------|
| LD50 oral rat | > 5000 mg/kg OECD 401 |
| LD50 dermal rabbit | > 2000 mg/kg OECD 402 |

o-(p-isocyanatobenzyl)phenyl isocyanate; diphenylmethane-2,4'-diisocyanate (5873-54-1)

| | |
|--------------------|----------------------------------------|
| LD50 oral rat | > 2000 mg/kg Directive 84/449/EEC, B.1 |
| LD50 dermal rabbit | > 9400 mg/kg OECD 402 |

4-methyl-m-phenylene diisocyanate; toluene-2,6-di-isocyanate (584-84-9)

| | |
|-----------------------|-----------------------|
| LD50 oral rat | > 2000 mg/kg OECD 401 |
| LD50 dermal rabbit | > 2000 mg/kg OECD 402 |
| LC50 Inhalation - Rat | 0.48 mg/l OECD 403 |

| | |
|-----------------------------------|-------------------------------------------------------------------------------------|
| Skin corrosion/irritation | : Not classified (Based on available data, the classification criteria are not met) |
| Serious eye damage/irritation | : Not classified (Based on available data, the classification criteria are not met) |
| Respiratory or skin sensitisation | : May cause an allergic skin reaction. |
| Germ cell mutagenicity | : Not classified (Based on available data, the classification criteria are not met) |

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| | |
|-----------------------|-------------------------------------------------------------------------------------|
| Carcinogenicity | : Not classified (Based on available data, the classification criteria are not met) |
| Reproductive toxicity | : Not classified (Based on available data, the classification criteria are not met) |
| STOT-single exposure | : Not classified (Based on available data, the classification criteria are not met) |

| | |
|-----------------------------------------------------------------------------------------------|-----------------------------------|
| o-(p-isocyanatobenzyl)phenyl isocyanate; diphenylmethane-2,4'-diisocyanate (5873-54-1) | |
| STOT-single exposure | May cause respiratory irritation. |

| | |
|--------------------------------------------------------------------------------|-----------------------------------|
| 4-methyl-m-phenylene diisocyanate; toluene-2,6-di-isocyanate (584-84-9) | |
| STOT-single exposure | May cause respiratory irritation. |

| | |
|------------------------|-------------------------------------------------------------------------------------|
| STOT-repeated exposure | : Not classified (Based on available data, the classification criteria are not met) |
|------------------------|-------------------------------------------------------------------------------------|

| | |
|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| o-(p-isocyanatobenzyl)phenyl isocyanate; diphenylmethane-2,4'-diisocyanate (5873-54-1) | |
| STOT-repeated exposure | May cause damage to organs through prolonged or repeated exposure. |

| | |
|-------------------|-------------------------------------------------------------------------------------|
| Aspiration hazard | : Not classified (Based on available data, the classification criteria are not met) |
|-------------------|-------------------------------------------------------------------------------------|

| | |
|------------------------------|----------------|
| Hranitherm 320 PUR LC | |
| Viscosity, kinematic | Not applicable |

11.2. Information on other hazards

| | |
|------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11.2.1. Endocrine disrupting properties | |
| Adverse health effects caused by endocrine disrupting properties | : The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 % |

| | |
|-------------------------------------|--|
| 11.2.2. Other information | |
| No additional information available | |

SECTION 12: Ecological information

12.1. Toxicity

| | |
|-----------------------------------------------------------|-------------------------------------------------------------------------------------|
| Hazardous to the aquatic environment, short-term (acute) | : Not classified (Based on available data, the classification criteria are not met) |
| Hazardous to the aquatic environment, long-term (chronic) | : Not classified (Based on available data, the classification criteria are not met) |

| | |
|----------------------------------------------------------------------|-----------|
| 2,4-bis[(dodecylsulfanyl)methyl]-6-methylphenol (110675-26-8) | |
| LC50 - Fish [1] | > 10 mg/l |
| EC50 - Crustacea [1] | > 10 mg/l |
| EC50 72h - Algae [1] | > 10 mg/l |

| | |
|-----------------------------------------------------------------------------------------------|---------------------------------------|
| o-(p-isocyanatobenzyl)phenyl isocyanate; diphenylmethane-2,4'-diisocyanate (5873-54-1) | |
| EC50 - Crustacea [1] | 3.7 mg/l (Daphnia Magna) |
| NOEC chronic crustacea | 10 mg/l 21d Daphnia magna, OECD TG201 |

| | |
|--------------------------------------------------------------------------------|-----------------------|
| 4-methyl-m-phenylene diisocyanate; toluene-2,6-di-isocyanate (584-84-9) | |
| LC50 - Fish [1] | 133 mg/l |
| EC50 - Crustacea [1] | 12.5 mg/l OECD TG 202 |

12.2. Persistence and degradability

| | |
|----------------------------------------------------------------------|----------------------------|
| 2,4-bis[(dodecylsulfanyl)methyl]-6-methylphenol (110675-26-8) | |
| Persistence and degradability | Not readily biodegradable. |

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| | |
|----------------------------------------------------------------------------------------|-----------------------------------|
| o-(p-isocyanatobenzyl)phenyl isocyanate; diphenylmethane-2,4'-diisocyanate (5873-54-1) | |
| Persistence and degradability | The product is not biodegradable. |
| Biodegradation | 0 % (OECD 302 C) |
| 4-methyl-m-phenylene diisocyanate; toluene-2,6-di-isocyanate (584-84-9) | |
| Persistence and degradability | Not readily biodegradable. |

12.3. Bioaccumulative potential

| | |
|----------------------------------------------------------------------------------------|--------------------------------------|
| o-(p-isocyanatobenzyl)phenyl isocyanate; diphenylmethane-2,4'-diisocyanate (5873-54-1) | |
| BCF - Fish [1] | 200 Cyprinus Carpio, 28d, OECD 305 E |
| Partition coefficient n-octanol/water (Log Pow) | 4.52 @ 22°C, pH 7 |

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

| | |
|----------------------------------------------------------------------------------------|--|
| Hranitherm 320 PUR LC | |
| This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII | |
| This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII | |

12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties : The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %.

12.7. Other adverse effects

Other adverse effects : No other effects known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional waste regulation : Disposal must be done according to official regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations : Re-use, when possible. Comply with applicable regulations for solid waste disposal. Disposal must be done according to official regulations.
Additional information : Do not re-use empty containers.
HP Code : HP13 - "Sensitising:" waste which contains one or more substances known to cause sensitising effects to the skin or the respiratory organs.

SECTION 14: Transport information

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

| ADR | IMDG | IATA | ADN | RID |
|-------------------------------|----------------|----------------|----------------|----------------|
| 14.1. UN number or ID number | | | | |
| Not applicable | Not applicable | Not applicable | Not applicable | Not applicable |
| 14.2. UN proper shipping name | | | | |
| Not applicable | Not applicable | Not applicable | Not applicable | Not applicable |

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| ADR | IMDG | IATA | ADN | RID |
|----------------------------------------|----------------|----------------|----------------|----------------|
| 14.3. Transport hazard class(es) | | | | |
| Not applicable | Not applicable | Not applicable | Not applicable | Not applicable |
| 14.4. Packing group | | | | |
| Not applicable | Not applicable | Not applicable | Not applicable | Not applicable |
| 14.5. Environmental hazards | | | | |
| Not applicable | Not applicable | Not applicable | Not applicable | Not applicable |
| No supplementary information available | | | | |

14.6. Special precautions for user

Overland transport

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

Inland waterway transport

Not applicable

Rail transport

Not applicable

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

| EU restriction list (REACH Annex XVII) | |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Reference code | Applicable on |
| 3(b) | Aromatic isocyanates - prepolymers ; 4-methyl-m-phenylene diisocyanate; toluene-2,6-di-isocyanate |
| 3(c) | 4-methyl-m-phenylene diisocyanate; toluene-2,6-di-isocyanate |
| 56. | o-(p-isocyanatobenzyl)phenyl isocyanate; diphenylmethane-2,4'-diisocyanate |
| 56(b) | o-(p-isocyanatobenzyl)phenyl isocyanate; diphenylmethane-2,4'-diisocyanate |
| 74. | o-(p-isocyanatobenzyl)phenyl isocyanate; diphenylmethane-2,4'-diisocyanate ; 4-methyl-m-phenylene diisocyanate; toluene-2,6-di-isocyanate |

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

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POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

Dual-Use Regulation (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

United Kingdom

British National Regulations : Directive 2008/98/EC of the European Parliament and of the Council on waste and repealing certain Directives, in the valid wording.
Regulation (EC) No 1013/2006 of the European Parliament and of the Council on shipments of waste, in the valid wording.
UK Waste Regulations.
UK REACH.
GB CLP.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

| Abbreviations and acronyms: | |
|-----------------------------|-------------------------------------------------------------------------------------------------|
| ADN | European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways |
| ADR | European Agreement concerning the International Carriage of Dangerous Goods by Road |
| ATE | Acute Toxicity Estimate |
| BCF | Bioconcentration factor |
| BLV | Biological limit value |
| BOD | Biochemical oxygen demand (BOD) |
| COD | Chemical oxygen demand (COD) |
| DMEL | Derived Minimal Effect level |
| DNEL | Derived-No Effect Level |
| EC-No. | European Community number |
| EC50 | Median effective concentration |
| EN | European Standard |
| IARC | International Agency for Research on Cancer |
| IATA | International Air Transport Association |
| IMDG | International Maritime Dangerous Goods |
| LC50 | Median lethal concentration |
| LD50 | Median lethal dose |
| LOAEL | Lowest Observed Adverse Effect Level |

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| Abbreviations and acronyms: | |
|-----------------------------|------------------------------------------------------------------------------|
| NOAEC | No-Observed Adverse Effect Concentration |
| NOAEL | No-Observed Adverse Effect Level |
| NOEC | No-Observed Effect Concentration |
| OECD | Organisation for Economic Co-operation and Development |
| OEL | Occupational Exposure Limit |
| PBT | Persistent Bioaccumulative Toxic |
| PNEC | Predicted No-Effect Concentration |
| RID | Regulations concerning the International Carriage of Dangerous Goods by Rail |
| SDS | Safety Data Sheet |
| STP | Sewage treatment plant |
| ThOD | Theoretical oxygen demand (ThOD) |
| TLM | Median Tolerance Limit |
| VOC | Volatile Organic Compounds |
| CAS-No. | Chemical Abstract Service number |
| N.O.S. | Not Otherwise Specified |
| vPvB | Very Persistent and Very Bioaccumulative |
| ED | Endocrine disrupting properties |

| | |
|-----------------|-----------------------------------------------------------------------------------------------------------------------|
| Data sources | : ECHA Guidance on the compilation of safety data sheets ECHA C&L Inventory database. Supplier's safety documents. |
| Training advice | : Provide SDS to employees. Follow general rules on handling chemical substances and/or mixtures. |

| Full text of H- and EUH-statements: | |
|-------------------------------------|----------------------------------------------------------------------------|
| Acute Tox. 2 (Inhalation) | Acute toxicity (inhal.), Category 2 |
| Acute Tox. 4 (Inhalation) | Acute toxicity (inhal.), Category 4 |
| Aquatic Chronic 3 | Hazardous to the aquatic environment – Chronic Hazard, Category 3 |
| Carc. 2 | Carcinogenicity, Category 2 |
| Eye Irrit. 2 | Serious eye damage/eye irritation, Category 2 |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H330 | Fatal if inhaled. |
| 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. |
| H412 | Harmful to aquatic life with long lasting effects. |
| Resp. Sens. 1 | Respiratory sensitisation, Category 1 |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 |

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| Full text of H- and EUH-statements: | |
|-------------------------------------|--------------------------------------------------------------------------------------------|
| 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, Respiratory tract irritation |

| Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]: | | |
|---------------------------------------------------------------------------------------------------------------------------|------|--------------------|
| Skin Sens. 1 | H317 | Calculation method |

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