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| bodyline® | | Page: 1 of 17 |
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| SAFETY DATA SHEET | | Print Date: 27.03.2015 |
| BDPBPBA195 ADHESIVE | | MSDS Number: 000000233632 Version: 4.1 |
| 824074 | | |

Conforms to EU Regulation 1907/2006/EC as amended. - SDSCLP_GB

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

1.1 Product identifier

Trade name : Panel Bonding Adhesive 195ml
ADHESIVE

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

Use of the : Adhesives
Substance/Mixture

| | |
|---|--|
| 1.3 Details of the supplier of the safety data sheet Brown Brothers Distribution Limited PO Box 162 Needham Road Stowmarket IP14 2ZR enquiries@brownbrothers.com | 1.4 Emergency telephone number 01449 771771 (mon-fri: 08.30 - 17.00) Product Information 01449 771771 |
|---|--|

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

| | |
|--------------------------------------|--|
| Skin irritation, Category 2 | H315: Causes skin irritation. |
| Eye irritation, Category 2 | H319: Causes serious eye irritation. |
| Skin sensitisation, Category 1 | H317: May cause an allergic skin reaction. |
| Chronic aquatic toxicity, Category 2 | H411: Toxic to aquatic life with long lasting effects. |

Classification (67/548/EEC, 1999/45/EC)

| | |
|-------------------------------|---|
| Sensitising | R43: May cause sensitisation by skin contact. |
| Irritant | R36/38: Irritating to eyes and skin. |
| Dangerous for the environment | R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |

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2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Warning

Hazard statements : H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P273 Avoid release to the environment.
P280 Wear eye protection/ face protection.
P280 Wear protective gloves.
Response:
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.

Hazardous components which must be listed on the label:

25068-38-6 reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecularweight <= 700)
14228-73-0 1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane

Additional Labelling:

Contains epoxy constituents. May produce an allergic reaction.

2.3 Other hazards

Assessment : PBT substance , vPvB substance - not determined

SECTION 3: Composition/information on ingredients

3.2 Mixtures

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Hazardous components

| Chemical Name | CAS-No. EC-No. Registration number | Classification (67/548/EEC) | Classification (REGULATION (EC) No 1272/2008) | Concentration [%] |
|---|--|--------------------------------|---|----------------------|
| reaction product: bisphenol-A- (epichlorhydrin) epoxy resin (number average molecularweight <= 700) | 25068-38-6 01-2119456619-26-xxxx | Xi; R36/38 R43 N; R51/53 | Skin Irrit. 2; H315 Eye Irrit. 2; H319 Skin Sens. 1; H317 Aquatic Chronic 2; H411 | >= 50 - < 60 |
| 1,4-Bis[(2,3- epoxypropoxy)met hyl]cyclohexane | 14228-73-0 238-098-4 | Xi; R36/38-R43 R52/53 | Skin Irrit. 2; H315 Eye Irrit. 2; H319 Skin Sens. 1; H317 Aquatic Chronic 3; H412 | >= 10 - < 15 |
| [3-(2,3- Epoxypropoxy)pro pyl]trimethoxysilan e | 2530-83-8 219-784-2 | Xi; R41 R52/53 | Eye Dam. 1; H318 Aquatic Chronic 3; H412 | >= 1 - < 2,5 |
| Substances with a workplace exposure limit: | | | | |
| Silica, vitreous | 60676-86-0 262-373-8 | | | >= 15 - < 25 |
| GLASS SPHERES | 65997-17-3 | | | >= 10 - < 15 |

For the full text of the R-phrases mentioned in this Section, see Section 16.

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- General advice : Consult a physician.
Show this safety data sheet to the doctor in attendance.
- If inhaled : Move to fresh air.
If symptoms persist, call a physician.
In case of shortness of breath, give oxygen.
- In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off immediately with plenty of water.
Wash contaminated clothing before re-use.

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If skin irritation persists, call a physician.

In case of eye contact : Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention. Remove contact lenses.

If swallowed : Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms :

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:
stomach or intestinal upset (nausea, vomiting, diarrhea)
irritation (nose, throat, airways)
Drowsiness

Risks : No data available

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : No hazards which require special first aid measures.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : ABC powder
Carbon dioxide (CO₂)
Dry chemical
Water mist

Unsuitable extinguishing media : Halons

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion : carbon dioxide and carbon monoxide

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products

formaldehyde
Hydrocarbons
Hydrogen
Methanol
phenols
silicon dioxide
silicone polymers
In a sustained fire, sizing and binders may decompose, releasing combustion products including carbon dioxide, carbon monoxide, various hydrocarbons, and water.
various hydrocarbons

5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

Further information : Keep containers and surroundings cool with water spray. Prevent fire extinguishing water from contaminating surface water or the ground water system. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

6.2 Environmental precautions

Environmental precautions : Prevent further leakage or spillage if safe to do so.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Large spills should be collected mechanically (remove by pumping) for disposal. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

No data available

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Do not breathe vapours or spray mist.
 Avoid contact with skin and eyes.
 For personal protection see section 8.
 Provide sufficient air exchange and/or exhaust in work rooms.
 Avoid exceeding the given occupational exposure limits (see section 8).
 Smoking, eating and drinking should be prohibited in the application area.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in original container.
 Keep containers tightly closed in a dry, cool and well-ventilated place.
 Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Other data : Stable under recommended storage conditions.

7.3 Specific end use(s)

No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

| Components | CAS-No. | Value type | Form of Exposure | Control parameters | Update | Basis |
|----------------------|------------|------------|------------------|------------------------|--------|-------------|
| Silica, vitreous | 60676-86-0 | TWA | Respirable dust. | 0,08 mg/m ³ | 2007 | EH40 WEL |
| Further information: | | | | | | |
| GLASS SPHERES | 65997-17-3 | TWA | Fiber. | 5 mg/m ³ | 2007 | EH40 WEL |

8.2 Exposure controls

| | | |
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Engineering measures

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below level of overexposure (from known, suspected or apparent adverse effects).

Personal protective equipment

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection : Wear resistant gloves such as:
Nitrile rubber
butyl-rubber

Eye protection : Safety glasses with side-shields

Skin and body protection : Wear as appropriate:
Safety shoes

Hygiene measures : Keep away from food, drink and animal feedingstuffs.
When using do not eat, drink or smoke.
Ensure that eyewash stations and safety showers are close to the workstation location.

Environmental exposure controls

General advice : Prevent further leakage or spillage if safe to do so.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|--------------------------------|----------------------------|
| Appearance | : viscous; liquid |
| Colour | : black |
| Odour | : No data available |
| Odour Threshold | : No data available |
| pH | : No data available |
| Freezing point / Melting point | : No data available |
| Boiling point | : > 150 °C |
| Flash point | : > 99 °C; Seta closed cup |
| Evaporation rate | : No data available |

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|--|--------------------------------------|
| Flammability (solid, gas) | : No data available |
| Burning rate | : No data available |
| Lower explosion limit | : No data available |
| Upper explosion limit | : No data available |
| Vapour pressure | : < 0,1 hPa; 20 °C |
| Relative vapour density | : No data available |
| Relative density | : 1,089; 20 °C |
| Density | : 1,089 g/cm ³ ; 20 °C |
| Water solubility | : insoluble |
| Solubility in other solvents | : No data available |
| Partition coefficient: n-octanol/water | : No data available |
| Auto-ignition temperature | : No data available |
| Ignition temperature | : No data available |
| Thermal decomposition | : No data available |
| Viscosity, dynamic | : No data available |
| Viscosity, kinematic | : > 10.000 mm ² /s; 40 °C |
| Explosive properties | : No data available |
| Oxidizing properties | : No data available |

9.2 Other information

| | |
|--------------|---------------------|
| Bulk density | : No data available |
|--------------|---------------------|

SECTION 10: Stability and reactivity

10.1 Reactivity

Hazardous polymerisation does not occur.

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10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Further information: Stable under recommended storage conditions.
: Hazardous polymerisation does not occur.

10.4 Conditions to avoid

Conditions to avoid : excessive heat
Heat, flames and sparks.
Exposure to air.
Exposure to moisture

10.5 Incompatible materials

Materials to avoid : None known.
Acids
Amines
Bases
fluorides
Oxidizing agents
peroxides
water

10.6 Hazardous decomposition products

Hazardous decomposition products : carbon dioxide and carbon monoxide
formaldehyde
formaldehyde-like
Hydrocarbons
Hydrogen
Methanol
phenols
silicone polymers
silicon dioxide
various hydrocarbons

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product

Acute oral toxicity : No data available

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- Acute inhalation toxicity : No data available
- Acute dermal toxicity : No data available
- Skin corrosion/irritation : No data available
- Serious eye damage/eye irritation : No data available
- Respiratory or skin sensitisation : No data available
- Aspiration toxicity : No aspiration toxicity classification

Components:

reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecularweight <= 700) :

- Acute oral toxicity : LD 50: > 2.000 mg/kg, Rat, OECD Test Guideline 420, No adverse effect has been observed in acute oral toxicity tests.
- Acute dermal toxicity : LD 50: > 2.000 mg/kg, Rat, OECD Test Guideline 402, Not classified as acutely toxic by dermal absorption under GHS.
- Respiratory or skin sensitisation : Local lymph node assay, OECD Test Guideline 429
- Germ cell mutagenicity
- Genotoxicity in vitro : in vitro assay, Rodent cell line, without metabolic activation, Result: positive
- Genotoxicity in vitro : in vitro assay, Rodent cell line, with metabolic activation, Result: negative
- Genotoxicity in vitro : Ames test, with and without metabolic activation, Result: negative
- Genotoxicity in vivo : in vivo assay, Mouse(male), Ingestion, Result: negative

[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane :

- Acute oral toxicity : LD 50: 8.025 mg/kg, Rat, OECD Test Guideline 401
- Acute inhalation toxicity : LC 50: > 5,3 mg/l, 4 h, Rat, dust/mist, OECD Test Guideline 403

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- Acute dermal toxicity : LD 50: 4.250 mg/kg, Rabbit
- Respiratory or skin sensitisation : Guinea pig, Classification: Did not cause sensitisation on laboratory animals.
- Germ cell mutagenicity
- Genotoxicity in vitro : Ames test, Salmonella typhimurium, with and without metabolic activation, Result: positive, Mutagenicity (Salmonella typhimurium - reverse mutation assay)
- Genotoxicity in vitro : mouse lymphoma cells, with and without metabolic activation, Result: positive, OECD Test Guideline 476
- Genotoxicity in vitro : Chinese hamster ovary cells, Result: positive, OECD Test Guideline 479
- Genotoxicity in vivo : In vivo micronucleus test, Mouse(male and female), Bone marrow, Intraperitoneal, OECD Test Guideline 474, Result: positive

SECTION 12: Ecological information

12.1 Toxicity

Product:

No data available

Components:

reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecularweight <= 700):

- Toxicity to fish : LC50: 2,7 mg/l, 96 h, Oncorhynchus mykiss (rainbow trout), semi-static test
- Toxicity to daphnia and other aquatic invertebrates : EC50: 2,8 mg/l, 48 h, Water flea (Daphnia magna), static test, OECD Test Guideline 202
- Toxicity to algae : EC50: 4,2 mg/l, 72 h, Pseudokirchneriella subcapitata (green algae)
- Toxicity to daphnia and other aquatic invertebrates : NOEC: 0,3 mg/l, 21 d, Water flea (Daphnia magna), semi-static test, OECD Test Guideline 211

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(Chronic toxicity)

1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane:Ecotoxicology Assessment

Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane:

Toxicity to fish : LC50: 55 mg/l, 96 h, Cyprinus carpio (Carp), semi-static test

Toxicity to daphnia and other aquatic invertebrates : EC50: 324 mg/l, 48 h, Daphnia (water flea), static test

Toxicity to algae : EC50: 350 mg/l, 96 h, Pseudokirchneriella subcapitata (microalgae), static test

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 100 mg/l, 21 d, Daphnia (water flea)

12.2 Persistence and degradability

Product:

No data available

Components:

reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecularweight <= 700) :

Biodegradability : 5 %, Result: Not readily biodegradable., Exposure time: 28 d, OECD Test Guideline 301F

: 82 %, Exposure time: 28 d, Abiotic degradation

Physico-chemical removability : The product can be degraded by abiotic (e.g. chemical or photolytic) processes.

[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane :

Biodegradability : aerobic, 37 %, Result: Not readily biodegradable., Exposure time: 28 d, GLP: yes

12.3 Bioaccumulative potential

Product:

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Bioaccumulation : The bioaccumulation potential cannot be determined.

Components:
No data available

12.4 Mobility in soil

Product:
No data available

Components:
No data available

12.5 Results of PBT and vPvB assessment

Product:
No data available

Components:
No data available

12.6 Other adverse effects

Product:
No data available

Components:
No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- Product : Dispose of in accordance with the European Directives on waste and hazardous waste.
- : Do not contaminate ponds, waterways or ditches with chemical or used container.
Container hazardous when empty.
Dispose of in accordance with local regulations.
- Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.

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SECTION 14: Transport information

14.1 UN number

ADR: UN3082

ADNR: UN3082

RID: UN3082

INTERNATIONAL MARITIME DANGEROUS GOODS: UN3082

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO: UN3082

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER: UN3082

14.2 UN proper shipping name

ADR: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EPOXY RESIN)

ADNR: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EPOXY RESIN)

RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EPOXY RESIN)

INTERNATIONAL MARITIME DANGEROUS GOODS: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EPOXY RESIN)

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO: Environmentally hazardous substance, liquid, n.o.s. (EPOXY RESIN)

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER: Environmentally hazardous substance, liquid, n.o.s. (EPOXY RESIN)

14.3 Transport hazard class(es)

ADR: 9

ADNR: 9

RID: 9

INTERNATIONAL MARITIME DANGEROUS GOODS: 9

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO: 9

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER: 9

14.4 Packing group

ADR: III

ADNR: III

RID: III

INTERNATIONAL MARITIME DANGEROUS GOODS: III

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO: III

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER: III

14.5 Environmental hazards

ADR: Environmentally hazardous

ADNR: Environmentally hazardous

RID: Environmentally hazardous

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INTERNATIONAL MARITIME DANGEROUS GOODS: MARINE POLLUTANT
INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO: Environmentally hazardous
INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER: Environmentally hazardous

14.6 Special precautions for user

Not applicable

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Ship Type: Not applicable
Hazard code(s): Not applicable
Pollutant Category: Not applicable

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15: Regulatory information

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

Seveso II - Directive 2003/105/EC amending Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances

| Hazard class | Number | Quantity 1 | Quantity 2 |
|-------------------------------|--------|------------|------------|
| Dangerous for the environment | 9b | 200 t | 500 t |

Notification status

| | |
|---|----------------------|
| US. Toxic Substances Control Act | y (positive listing) |
| Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL). (Can. Gaz. Part II, Vol. 133) | y (positive listing) |
| Australia. Industrial Chemical (Notification and Assessment) Act | y (positive listing) |
| New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand | y (positive listing) |
| Japan. Kashin-Hou Law List | n (Negative listing) |
| Korea. Toxic Chemical Control Law (TCCL) List | y (positive listing) |

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Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act y (positive listing)
China. Inventory of Existing Chemical Substances y (positive listing)

15.2 Chemical Safety Assessment

No data available

SECTION 16: Other information

Full text of R-phrases referred to under sections 2 and 3

| | |
|--------|---|
| R36/38 | Irritating to eyes and skin. |
| R41 | Risk of serious damage to eyes. |
| R43 | May cause sensitisation by skin contact. |
| R51/53 | Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
| R52/53 | Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |

Full text of H-Statements referred to under sections 2 and 3.

| | |
|------|--|
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H411 | Toxic to aquatic life with long lasting effects. |
| H412 | Harmful to aquatic life with long lasting effects. |

Further information

Other information : The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :

ACGIH : American Conference of Industrial Hygienists
BEI : Biological Exposure Index
CAS : Chemical Abstracts Service (Division of the American Chemical Society).
CMR : Carcinogenic, Mutagenic or Toxic for Reproduction
FG : Food grade

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GHS : Globally Harmonized System of Classification and Labeling of Chemicals.

H-statement : Hazard Statement

IATA : International Air Transport Association.

IATA-DGR : Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

ICAO : International Civil Aviation Organization

ICAO-TI (ICAO) : Technical Instructions by the "International Civil Aviation Organization"

IMDG : International Maritime Code for Dangerous Goods

ISO : International Organization for Standardization

logPow : octanol-water partition coefficient

LCxx : Lethal Concentration, for xx percent of test population

LDxx : Lethal Dose, for xx percent of test population.

ICxx : Inhibitory Concentration for xx of a substance

Ecxx : Effective Concentration of xx

N.O.S.: Not Otherwise Specified

OECD : Organization for Economic Co-operation and Development

OEL : Occupational Exposure Limit

P-Statement : Precautionary Statement

PBT : Persistent , Bioaccumulative and Toxic

PPE : Personal Protective Equipment

STEL : Short-term exposure limit

STOT : Specific Target Organ Toxicity

TLV : Threshold Limit Value

TWA : Time-weighted average

vPvB : Very Persistent and Very Bioaccumulative

WEL : Workplace Exposure Level

ABM : Water Hazard Class for the Netherlands

ADR : Agreement concerning the International Carriage of Dangerous Goods by Road.

ADNR: Regulation for the Carriage of Dangerous Substances on the Rhine

CLP : Classification, Labelling and Packaging

CSA : Chemical Safety Assessment

CSR : Chemical Safety Report

DNEL : Derived No Effect Level.

EINECS : European Inventory of Existing Commercial Chemical Substances.

ELINCS : European List of Notified Chemical Substances

PEC : Predicted Effect Concentration

PEL : Permissible Exposure Limits

PNEC : Predicted No Effect Concentration

R-phrase : Risk phrase

REACH : Registration, Evaluation, Authorisation and Restriction of Chemicals

RID : Regulation Concerning the International Transport of Dangerous Goods by Rail

S-phrase: Safety phrase

WGK : German Water Hazard Class

| | | |
|--------------------------|--|---------------------------|
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Conforms to EU Regulation 1907/2006/EC as amended. - SDSGHS_GB

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

1.1 Product identifier

Trade name : Panel Bonding Adhesive 195ml
ADHESIVE

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

Use of the substance/mixture : Adhesives

1.3 Details of the supplier of the safety data sheet

Brown Brothers Distribution Limited
PO Box 162
Needham Road
Stowmarket
IP14 2ZR

enquiries@brownbrothers.com

1.4 Emergency telephone number

01449 771771 (mon-fri: 08.30 - 17.00)

Product Information

01449 771771

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Skin corrosion, Category 1B H314: Causes severe skin burns and eye damage.

Skin sensitisation, Category 1 H317: May cause an allergic skin reaction.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Danger

Hazard statements : H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.

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- Precautionary statements : **Prevention:**
- P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- Response:**
- P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Hazardous components which must be listed on the label:

3,3'-Oxybis(ethyleneoxy)bis(propylamine)

2-Ethyl-4-methylimidazole

2-Methylpentane-1,5-diamine

Bis[(dimethylamino)methyl]phenol

2.3 Other hazards**Additional advice**

No information available.

SECTION 3: Composition/information on ingredients**3.2 Mixtures****Hazardous components**

| Chemical name | CAS-No. EC-No. Registration number | Classification (REGULATION (EC) No 1272/2008) | Concentration (%) |
|--|--|---|-----------------------|
| 3,3'-Oxybis(ethyleneoxy)bis(propylamine) | 4246-51-9 224-207-2 | Skin Corr.1B; H314 Eye Dam.1; H318 Skin Sens.1; H317 | >= 10,00 - < 15,00 |
| 2,4,6-Tris(dimethylaminomethyl)phenol | 90-72-2 202-013-9 | Acute Tox.4; H302 Skin Irrit.2; H315 Eye Irrit.2; H319 Aquatic Chronic3; H412 | >= 5,00 - < 10,00 |
| 2-Ethyl-4- | 931-36-2 | Acute Tox.4; H302 | >= 2,50 - < |

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| | | | |
|--|-------------------------|--|-----------------------|
| methylimidazole | 213-234-5 | Skin Irrit.2; H315 Eye Dam.1; H318 Skin Sens.1B; H317 | 3,00 |
| 2-Methylpentane-1,5-diamine | 15520-10-2 239-556-6 | Acute Tox.4; H302 Acute Tox.4; H332 Acute Tox.4; H312 Skin Corr.1A; H314 Eye Dam.1; H318 STOT SE3; H335 | >= 1,00 - < 2,50 |
| Bis[(dimethylamino)methyl]phenol | 71074-89-0 275-162-0 | Skin Corr.1B; H314 | >= 1,00 - < 2,50 |
| 4-Methylimidazole | 822-36-6 212-497-3 | Acute Tox.4; H302 Acute Tox.3; H311 Skin Corr.1B; H314 Carc.2; H351 Repr.2; H361f STOT SE3; H335 | >= 0,30 - < 0,50 |
| Substances with a workplace exposure limit : | | | |
| Silica, vitreous | 60676-86-0 262-373-8 | | >= 10,00 - < 15,00 |

For explanation of abbreviations see section 16.

SECTION 4: First aid measures**4.1 Description of first aid measures**

- General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.
- If inhaled : Move to fresh air.
Keep patient warm and at rest.
If unconscious place in recovery position and seek medical advice.
If symptoms persist, call a physician.
- In case of skin contact : Remove contaminated clothing. If irritation develops, get medical attention.
If on skin, rinse well with water.
Wash contaminated clothing before re-use.
- In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.
Remove contact lenses.

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Protect unharmed eye.

If swallowed : Get medical attention immediately.
Do NOT induce vomiting.
Rinse mouth with water.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:
stomach or intestinal upset (nausea, vomiting, diarrhea)
irritation (nose, throat, airways)

Risks : May cause an allergic skin reaction.
Causes serious eye damage.
Causes severe burns.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : No hazards which require special first aid measures.

SECTION 5: Firefighting measures**5.1 Extinguishing media**

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Water spray
Foam
Carbon dioxide (CO₂)
Dry chemical

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : carbon dioxide and carbon monoxide
Nitrogen oxides (NO_x)
Ammonia
formaldehyde

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nitrogen oxides (NOx)
acid vapors
carboxylic acids

5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

Specific extinguishing methods : Product is compatible with standard fire-fighting agents.

Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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

Personal precautions : Use personal protective equipment.
Ensure adequate ventilation.
Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.
Comply with all applicable federal, state, and local regulations.

6.2 Environmental precautions

Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
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 : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For further information see Section 8 and Section 13 of the safety data sheet.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Advice on safe handling : Do not breathe vapours/dust.

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Do not smoke.

Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Container hazardous when empty.

Avoid exposure - obtain special instructions before use.

Avoid contact with skin and eyes.

Smoking, eating and drinking should be prohibited in the application area.

For personal protection see section 8.

Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Hygiene measures : Wash hands before breaks and at the end of workday. When using do not eat or drink. Ensure that eyewash stations and safety showers are close to the workstation location. When using do not smoke.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

Other data : No decomposition if stored and applied as directed.

7.3 Specific end use(s)

Specific use(s) : No data available

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

| Components | CAS-No. | Value type (Form of exposure) | Control parameters | Basis |
|------------------|------------|-------------------------------|--|----------|
| Silica, vitreous | 60676-86-0 | TWA (Respirable dust.) | 0,08 mg/m ³ Respirable dust. | EH40 WEL |

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8.2 Exposure controls**Engineering measures**

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment

Eye protection : Wear chemical splash goggles and face shield when there is potential for exposure of the eyes or face to liquid, vapor or mist.
Maintain eye wash station in immediate work area.

Hand protection

Remarks : Nitrile rubber

The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Skin and body protection : Wear as appropriate:
Impervious clothing
Chemical resistant apron
Safety shoes
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Discard gloves that show tears, pinholes, or signs of wear.

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

Appearance : viscous

Colour : tan

Odour : very faint, amine-like

Odour Threshold : No data available

pH : No data available

Melting point/freezing point : No data available

Boiling point/boiling range : 132,5 °C

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Flash point : > 93,4 °C
 (1,333333 hPa)
 Calculated Phase Transition Liquid/Gas
 Method: Seta closed cup

Evaporation rate : 1
 Ethyl Ether

Flammability (solid, gas) : No data available

Upper explosion limit : No data available

Lower explosion limit : No data available

Vapour pressure : < 10 hPa (20 °C)

Relative vapour density : > 1(Air = 1.0)

Relative density : 1,13 (25 °C)

Density : 1,13 g/cm³ (20 °C)

Solubility(ies)
 Water solubility : practically insoluble

Solubility in other solvents : No data available

Partition coefficient: n-
 octanol/water : No data available

Thermal decomposition : No data available

Viscosity
 Viscosity, dynamic : No data available

Viscosity, kinematic : > 10000 mm²/s (40 °C)

Oxidizing properties : No data available

9.2 Other information

No data available

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SECTION 10: Stability and reactivity**10.1 Reactivity**

No decomposition if stored and applied as directed.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Product will not undergo hazardous polymerization.

10.4 Conditions to avoidConditions to avoid : excessive heat
Exposure to moisture**10.5 Incompatible materials**Materials to avoid : Acids
fluorides
Oxidizing agents
Strong bases
Peroxides**10.6 Hazardous decomposition products**Hazardous decomposition products : carbon dioxide and carbon monoxide
Nitrogen oxides (NOx)
Ammonia
nitrogen oxides**SECTION 11: Toxicological information****11.1 Information on toxicological effects**Information on likely routes of exposure : Inhalation
Skin contact
Eye Contact
Ingestion**Acute toxicity**

Not classified based on available information.

Components:

3,3'-Oxybis(ethyleneoxy)bis(propylamine)

Acute oral toxicity : LD 50 (Rat): ca. 3.160 mg/kg

Acute dermal toxicity : LD 50 (Rabbit): Estimated > 2.500 mg/kg

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LD 50 (Rat): > 2.150 mg/kg
Method: OECD Test Guideline 402

Components:

2,4,6-Tris(dimethylaminomethyl)phenol

Acute oral toxicity : LD 50 (Rat): 2.169 mg/kg
Method: OECD Test Guideline 401

Components:

2-Ethyl-4-methylimidazole

Acute oral toxicity : LD 50 (Rat): ca. 731 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC 50 (Rat): > 0,03 mg/l
Exposure time: 8 h
Method: OECD Test Guideline 403
Assessment: No adverse effect has been observed in acute inhalation toxicity tests.

Acute dermal toxicity : LD 50 (Rabbit): > 400 mg/kg
Method: OECD Test Guideline 402
Assessment: No adverse effect has been observed in acute dermal toxicity tests.

Components:

2-Methylpentane-1,5-diamine

Acute oral toxicity : LD50 (Rat, male): 1.690 mg/kg
Method: OECD Test Guideline 401
GLP: no

Acute inhalation toxicity : LC50 (Rat, male and female): 4,9 mg/l
Exposure time: 1 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
GLP: yes

Acute dermal toxicity : LD50 (Rat, male and female): 1.870 mg/kg
Method: OECD Test Guideline 402
GLP: no
Remarks: Information given is based on data obtained from similar substances.

Components:

4-Methylimidazole

Acute oral toxicity : LD50 (Rat): 350 mg/kg

Acute dermal toxicity : LD 50 (Rabbit): 440 mg/kg

Skin corrosion/irritation

Causes severe burns.

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Product:

Remarks: May cause skin irritation in susceptible persons., Causes severe skin burns and eye damage.

Components:

3,3'-Oxybis(ethyleneoxy)bis(propylamine)

Result: Corrosive to skin

2,4,6-Tris(dimethylaminomethyl)phenol

Result: Corrosive after 1 to 4 hours of exposure

2-Ethyl-4-methylimidazole

Result: Irritating to skin.

2-Methylpentane-1,5-diamine

Species: Rabbit

Method: OECD Test Guideline 404

Result: Corrosive after 3 minutes or less of exposure

Bis[(dimethylamino)methyl]phenol

Result: Corrosive to skin

4-Methylimidazole

Result: Corrosive to skin

Silica, vitreous

Result: Possibly irritating to skin

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Remarks: May cause irreversible eye damage.

Components:

3,3'-Oxybis(ethyleneoxy)bis(propylamine)

Result: Corrosive

2,4,6-Tris(dimethylaminomethyl)phenol

Result: Corrosive

2-Ethyl-4-methylimidazole

Result: Corrosive

2-Methylpentane-1,5-diamine

Species: Rabbit

Result: Corrosive

Bis[(dimethylamino)methyl]phenol

Result: Corrosive

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4-Methylimidazole
Result: Corrosive

Silica, vitreous
Result: Possibly irritating to eyes

Respiratory or skin sensitisation

Skin sensitisation: May cause an allergic skin reaction.

Respiratory sensitisation: Not classified based on available information.

Product:

Remarks: May cause allergic skin reaction.

Components:

3,3'-Oxybis(ethyleneoxy)bis(propylamine)

Assessment: May cause sensitization by skin contact.

2-Ethyl-4-methylimidazole

Assessment: The product is a skin sensitiser, sub-category 1B.

Method: Local lymph node assay

2-Methylpentane-1,5-diamine

Species: Guinea pig

Assessment: Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity

Not classified based on available information.

Components:

2-Ethyl-4-methylimidazole

Genotoxicity in vitro : Test Type: Ames test
Result: negative

2-Methylpentane-1,5-diamine

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Test species: Human lymphocytes
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Result: negative
GLP: yes

: Test species: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: yes

Genotoxicity in vivo : Test Type: In vivo micronucleus test
Test species: Mouse (male and female)
Application Route: inhalation (dust/mist/fume)
Method: OECD Test Guideline 474

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Result: negative

GLP: yes

Remarks: Information given is based on data obtained from similar substances.

4-Methylimidazole
Genotoxicity in vitro: Test Type: Ames test
Test species: Salmonella typhimurium
Result: negative

Genotoxicity in vivo

: Test Type: In vivo micronucleus test
Test species: Rat
Result: negativeGerm cell mutagenicity-
Assessment

: Not mutagenic in Ames Test

Carcinogenicity

Not classified based on available information.

Components:

4-Methylimidazole

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

Reproductive toxicity

Not classified based on available information.

Components:

4-Methylimidazole

Effects on fertility

: Species: Rat, male
Application Route: Oral
Dose: 2500 parts per million
Symptoms: Reduced fertilityReproductive toxicity -
Assessment

: Some evidence of adverse effects on sexual function and fertility, based on animal experiments.

STOT - single exposure

Not classified based on available information.

Components:

2-Methylpentane-1,5-diamine

Exposure routes: Inhalation

Target Organs: Respiratory Tract

Assessment: May cause respiratory irritation.

4-Methylimidazole

Exposure routes: inhalation (dust/mist/fume)

Target Organs: Respiratory system

Assessment: May cause respiratory irritation.

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STOT - repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

Further information**Product:**

Remarks: No data available

Components:

Silica, vitreous

Remarks: Lung

SECTION 12: Ecological information**12.1 Toxicity****Components:**

3,3'-Oxybis(ethyleneoxy)bis(propylamine)

Toxicity to fish : LD 50 (Leuciscus idus (Golden orfe)): > 1.000 mg/l
 Exposure time: 96 h
 Test Type: static test
 Test substance: Neutralised product
 Method: DIN 38412

Toxicity to daphnia and other aquatic invertebrates : EC 50 (Water flea (Daphnia magna)): 218,16 mg/l
 Exposure time: 48 h
 Test Type: static test
 Method: Directive 67/548/EEC, Annex V, C.2.

2,4,6-Tris(dimethylaminomethyl)phenol

Toxicity to fish : LC 50 (Oncorhynchus mykiss (rainbow trout)): > 180 - < 240 mg/l
 Exposure time: 96 h
 Test Type: static test

Toxicity to algae : EC 50 (Desmodesmus subspicatus (green algae)): 84 mg/l
 End point: Growth inhibition
 Exposure time: 72 h

2-Ethyl-4-methylimidazole

Toxicity to fish : LC50 (Ide, silver or golden orfe (Leuciscus idus)): 68,1 mg/l
 Exposure time: 96 h
 Remarks: Mortality

Toxicity to daphnia and other aquatic invertebrates : EC 50 (Water flea (Daphnia magna)): 297 mg/l
 Exposure time: 48 h

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Test Type: static test

Toxicity to algae : EC50 (Desmodesmus subspicatus): 124,8 mg/l
 Exposure time: 72 h
 Test Type: static test

2-Methylpentane-1,5-diamine
 Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 130 mg/l
 Exposure time: 48 h
 Test Type: static test
 Method: OECD Test Guideline 203
 GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 50 mg/l
 Exposure time: 48 h
 Test Type: static test
 Method: EPA-660/3-75-009
 Remarks: Information given is based on data obtained from similar substances.

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
 Exposure time: 72 h
 Test Type: static test
 Method: OECD Test Guideline 201
 Remarks: Information given is based on data obtained from similar substances.

NOEC (Pseudokirchneriella subcapitata (green algae)): 10 mg/l

Exposure time: 72 h
 Test Type: static test
 Method: OECD Test Guideline 201
 Remarks: Information given is based on data obtained from similar substances.

Toxicity to bacteria : EC20 (Pseudomonas putida): 30 mg/l
 End point: Growth rate
 Exposure time: 18 h
 Test Type: Static

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 4,16 mg/l
 Exposure time: 21 d
 End point: Reproduction Test
 Species: Daphnia magna (Water flea)
 Test Type: semi-static test
 Method: OECD Test Guideline 211
 GLP: yes
 Remarks: Information given is based on data obtained from similar substances.

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4-Methylimidazole

Toxicity to fish : EC 50 (Leuciscus idus (Golden orfe)): 34 mg/l
 Exposure time: 96 h
 Remarks: Mortality

Toxicity to daphnia and other aquatic invertebrates : EC 50 (Water flea (Daphnia magna)): 180 mg/l
 Exposure time: 48 h

Toxicity to algae : EC 50 (Desmodesmus subspicatus (green algae)): 2 mg/l
 Exposure time: 72 h

12.2 Persistence and degradability**Components:****3,3'-Oxybis(ethyleneoxy)bis(propylamine)**

Biodegradability : Result: Not readily biodegradable.
 Biodegradation: < 10 %
 Exposure time: 60 d
 Method: OECD Test Guideline 301B

2,4,6-Tris(dimethylaminomethyl)phenol

Biodegradability : Result: Not readily biodegradable.
 Biodegradation: 4 %
 Exposure time: 28 d
 Method: OECD Test Guideline 301D

2-Ethyl-4-methylimidazole

Biodegradability : Biodegradation: 90 %
 Exposure time: 28 d
 Remarks: Readily biodegradable

2-Methylpentane-1,5-diamine

Biodegradability : Result: Readily biodegradable
 Biodegradation: 100 %
 Exposure time: 28 d
 Method: OECD Test Guideline 301D
 GLP: yes

4-Methylimidazole

Biodegradability : Result: Readily biodegradable
 Remarks: Information given is based on data obtained from similar substances.

12.3 Bioaccumulative potential**Components:****2-Ethyl-4-methylimidazole**

Partition coefficient: n- : log Pow: 1,13

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octanol/water

2-Methylpentane-1,5-diamine

Partition coefficient: n-
octanol/water : log Pow: <= 1 (25 °C)
pH: 9
GLP: yes

4-Methylimidazole

Bioaccumulation : Remarks: The product may be accumulated in organisms.

Partition coefficient: n-
octanol/water : log Pow: 0,23

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Not relevant

12.6 Other adverse effects**Product:**

Additional ecological
information : No data available

SECTION 13: Disposal considerations**13.1 Waste treatment methods**

Product : Do not dispose of waste into sewer.
Do not contaminate ponds, waterways or ditches with
chemical or used container.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Empty containers should be taken to an approved waste
handling site for recycling or disposal.
Do not re-use empty containers.

SECTION 14: Transport information**SECTION 14: Transport information****14.1 UN number**

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ADR: UN3267**ADNR:** UN3267**RID:** UN3267**INTERNATIONAL MARITIME DANGEROUS GOODS:** UN3267**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** UN3267**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** UN3267**14.2 UN proper shipping name****ADR:** CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (ALIPHATIC AMINE, 2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL)**ADNR:** CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (ALIPHATIC AMINE, 2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL)**RID:** CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (ALIPHATIC AMINE, 2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL)**INTERNATIONAL MARITIME DANGEROUS GOODS:** CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (ALIPHATIC AMINE, 2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL)**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** Corrosive liquid, basic, organic, n.o.s. (ALIPHATIC AMINE, 2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL)**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** Corrosive liquid, basic, organic, n.o.s. (ALIPHATIC AMINE, 2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL)**14.3 Transport hazard class(es)****ADR:** 8**ADNR:** 8**RID:** 8**INTERNATIONAL MARITIME DANGEROUS GOODS:** 8**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** 8**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** 8**14.4 Packing group****ADR:** III**ADNR:** III**RID:** III**INTERNATIONAL MARITIME DANGEROUS GOODS:** III**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** III**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** III**14.5 Environmental hazards****ADR:** Not applicable**ADNR:** Not applicable**RID:** Not applicable**INTERNATIONAL MARITIME DANGEROUS GOODS:** Not applicable**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** Not applicable**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** Not applicable**14.6 Special precautions for user**

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Not applicable

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Ship Type: Not applicable

Hazard code(s): Not applicable

Pollutant Category: Not applicable

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 57) : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.
Not applicable

Other regulations : Young people under 18 years old are not allowed to work with this product according to the EU Directive 94/33/EC on the protection of young people at work.

The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory

DSL : This product contains one or several components that are not on the Canadian DSL and have annual quantity limits.

AICS : On the inventory, or in compliance with the inventory

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| | |
|-------|---|
| ENCS | Not in compliance with the inventory |
| KECI | On the inventory, or in compliance with the inventory |
| PICCS | On the inventory, or in compliance with the inventory |
| IECSC | On the inventory, or in compliance with the inventory |

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

15.2 Chemical safety assessment

No data available

SECTION 16: Other information**Further information**

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Full text of H-Statements

| | |
|-------|--|
| H302 | Harmful if swallowed. |
| H311 | Toxic in contact with skin. |
| H312 | Harmful in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H332 | Harmful if inhaled. |
| H335 | May cause respiratory irritation. |
| H351 | Suspected of causing cancer. |
| H361f | Suspected of damaging fertility. |
| H412 | Harmful to aquatic life with long lasting effects. |

Other information : The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

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Sources of key data used to compile the Safety Data Sheet

Internal data including own and sponsored test reports

The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :

ACGIH : American Conference of Industrial Hygienists

BEI : Biological Exposure Index

CAS : Chemical Abstracts Service (Division of the American Chemical Society).

CMR : Carcinogenic, Mutagenic or Toxic for Reproduction

FG : Food grade

GHS : Globally Harmonized System of Classification and Labeling of Chemicals.

H-statement : Hazard Statement

IATA : International Air Transport Association.

IATA-DGR : Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

ICAO : International Civil Aviation Organization

ICAO-TI (ICAO) : Technical Instructions by the "International Civil Aviation Organization"

IMDG : International Maritime Code for Dangerous Goods

ISO : International Organization for Standardization

logPow : octanol-water partition coefficient

LCxx : Lethal Concentration, for xx percent of test population

LDxx : Lethal Dose, for xx percent of test population.

ICxx : Inhibitory Concentration for xx of a substance

Ecxx : Effective Concentration of xx

N.O.S.: Not Otherwise Specified

OECD : Organization for Economic Co-operation and Development

OEL : Occupational Exposure Limit

P-Statement : Precautionary Statement

PBT : Persistent , Bioaccumulative and Toxic

PPE : Personal Protective Equipment

STEL : Short-term exposure limit

STOT : Specific Target Organ Toxicity

TLV : Threshold Limit Value

TWA : Time-weighted average

vPvB : Very Persistent and Very Bioaccumulative

WEL : Workplace Exposure Level

ABM : Water Hazard Class for the Netherlands

ADR : Agreement concerning the International Carriage of Dangerous Goods by Road.

ADNR: Regulation for the Carriage of Dangerous Substances on the Rhine

CLP : Classification, Labelling and Packaging

CSA : Chemical Safety Assessment

| | | |
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CSR : Chemical Safety Report
 DNEL : Derived No Effect Level.
 EINECS : European Inventory of Existing Commercial Chemical Substances.
 ELINCS : European List of Notified Chemical Substances
 PEC : Predicted Effect Concentration
 PEL : Permissible Exposure Limits
 PNEC : Predicted No Effect Concentration
 R-phrase : Risk phrase
 REACH : Registration, Evaluation, Authorisation and Restriction of Chemicals
 RID : Regulation Concerning the International Transport of Dangerous Goods by Rail
 S-phrase: Safety phrase
 WGK : German Water Hazard Class