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This Safety Data Sheet has been prepared in accordance with the REACH Regulation (EC) 1907/2006 and its modifications.

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

1.1. Product identifier PU Flex Sealer
UFI: NQ10-00FM-R00F-NKT4
Product code: 0980

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

Identified uses

Sealant / Adhesive.

1.3. Details of the supplier of the safety data sheet

Granville Oil & Chemicals Ltd
29 Goldthorpe Ind. Est
Goldthorpe
Rotherham
South Yorkshire
S63 9BL
T 01709 890099
lab@granvilleoil.com

Veedol Ireland Ltd
77 Camden Street Lower
Saint Kevin's
Dublin
Ireland
D02 XE80
T +353 151 363 47

1.4. Emergency telephone number

+44 (0)1709 890099 (in UK) or your local poison control center

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

CLP REGULATION (EC) No 1272/2008

The health and environmental classifications of this material have been derived using the calculation method, except in cases where test data are available or the physical form impacts classification. Classification(s) based on test data or physical form are noted below, if applicable.

The eye damage/irritation classification is not applied based on test data.

The skin sensitization classification is not applied based on test data.

CLASSIFICATION:

Respiratory Sensitization, Category 1 - Resp. Sens. 1; H334

For full text of H phrases, see Section 16.

2.2. Label elements

CLP REGULATION (EC) No 1272/2008

SIGNAL WORD

DANGER.

Symbols:

GHS08 (Health Hazard) |

Pictograms

Ingredients:

| Ingredient | CAS Nbr | EC No. | % by Wt |
|--|----------|-----------|-----------|
| 4,4'-methylenediphenyl diisocyanate | 101-68-8 | 202-966-0 | 0.1 - < 1 |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | | 915-687-0 | < 0.1 |

HAZARD STATEMENTS:

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

UFI NQ10-00FM-R00F-NKT4

PRECAUTIONARY STATEMENTS
Prevention:

P261A Avoid breathing vapours.

Response:

 P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTRE or doctor/physician.

 30% of the mixture consists of components of unknown acute oral toxicity.
 32% of the mixture consists of components of unknown acute dermal toxicity.

2.3. Other hazards

Persons previously sensitised to isocyanates may develop a cross-sensitisation reaction to other isocyanates.

SECTION 3: Composition/information on ingredients

| Ingredient | CAS Nbr | EC No. | REACH Registration No. | % by Wt | Classification |
|--|-----------|-----------|------------------------|---------|--|
| Poly(Vinyl Chloride) | 9002-86-2 | 618-338-8 | | 20 - 50 | Substance with an occupational exposure limit |
| Reaction mass of ethylbenzene and xylene | | 905-588-0 | 01-2119488216-32 | 3 - 7 | Acute Tox. 4, H332; Acute Tox. 4, H312 Flam. Liq. 3, H226; Asp. Tox. 1, H304; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335; STOT RE 2, H373 |
| Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics | | 926-141-6 | 01-2119456620- | 1 - 5 | Asp. Tox. 1, H304; EUH066 |

| | | | | | |
|--|------------|-----------|------------------|-----------|--|
| | | | 43 | | |
| Titanium dioxide | 13463-67-7 | 236-675-5 | 01-2119489379-17 | < 5 | Substance with an occupational exposure limit |
| Calcium oxide | 1305-78-8 | 215-138-9 | 01-2119475325-36 | < 2.5 | EUH071; Skin Corr. 1C, H314 |
| 4,4'-methylenediphenyl diisocyanate | 101-68-8 | 202-966-0 | 01-2119457014-47 | 0.1 - < 1 | Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Resp. Sens. 1, H334; Skin Sens. 1, H317; Carc. 2, H351; STOT SE 3, H335; STOT RE 2, H373 - Nota 2,C |
| Carbon black | 1333-86-4 | 215-609-9 | 01-2119384822-32 | < 0.5 | Substance with an occupational exposure limit |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | | 915-687-0 | 01-2119491304-40 | < 0.1 | Aquatic Acute 1, H400,M=1; Aquatic Chronic 1, H410,M=1 Skin Sens. 1A, H317 |

Note: Any entry in the EC# column that begins with the numbers 6, 7, 8, or 9 are a Provisional List Number provided by ECHA pending publication of the official EC Inventory Number for the substance.

Please see section 16 for the full text of any H statements referred to in this section

For information on ingredient occupational exposure limits or PBT or vPvB status, see sections 8 and 12 of this SDS

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

Remove person to fresh air. If you feel unwell, get medical attention.

Skin contact

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye contact

Immediately flush with large amounts of water for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately get medical attention.

If swallowed

Rinse mouth. If you feel unwell, get medical attention.

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

See Section 11.1 Information on toxicological effects

4.3. Indication of any immediate medical attention and special treatment required

Not applicable.

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

| <u>Substance</u> | <u>Condition</u> |
|---------------------|--------------------|
| Isocyanates | During combustion. |
| Carbon monoxide | During combustion. |
| Carbon dioxide. | During combustion. |
| Hydrogen cyanide. | During combustion. |
| Oxides of nitrogen. | During combustion. |

5.3. Advice for fire-fighters

Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

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

Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapours, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Collect as much of the spilled material as possible. Place in a metal container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible.

6.4. Reference to other sections

Refer to Section 8 and Section 13 for more information

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

Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (eg. gloves, respirators...) as required.

7.2. Conditions for safe storage including any incompatibilities

Keep container tightly closed to prevent contamination with water or air. If contamination is suspected, do not reseal container. Store away from acids. Store away from oxidising agents. Store away from amines.

7.3. Specific end use(s)

See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

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

Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

| Ingredient | CAS Nbr | Agency | Limit type | Additional comments |
|----------------------|------------|--------|--|------------------------|
| Free isocyanates | 101-68-8 | UK HSC | TWA(as NCO):0.02 mg/m ³ ; STEL(as NCO):0.07 mg/m ³ | Respiratory Sensitizer |
| Calcium oxide | 1305-78-8 | UK HSC | TWA(respirable fraction):1 mg/m ³ ; TWA:2 mg/m ³ ; STEL(respirable fraction):4 mg/m ³ | |
| Carbon black | 1333-86-4 | UK HSC | TWA: 3.5 mg/m ³ ; STEL: 7 mg/m ³ | |
| Titanium dioxide | 13463-67-7 | UK HSC | TWA(respirable):4 mg/m ³ ; TWA(Inhalable):10 mg/m ³ | |
| Poly(Vinyl Chloride) | 9002-86-2 | UK HSC | TWA(as respirable dust):4 mg/m ³ ; TWA(as inhalable dust):10 mg/m ³ | |

UK HSC : UK Health and Safety Commission

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

Biological limit values

| Ingredient | CAS Nbr | Agency | Determinant | Biological Specimen | Sampling Time | Value | Additional comments |
|------------------|----------|------------------|----------------------------|---------------------|---------------|------------|---------------------|
| Free isocyanates | 101-68-8 | UK EH40 BMGVs | Isocyanate-derived diamine | Creatinine in urine | EPE | 1 umol/mol | |

UK EH40 BMGVs : UK. EH40 Biological Monitoring Guidance Values (BMGVs)

EPE: At the end of the period of exposure.

Recommended monitoring procedures: Information on recommended monitoring procedures can be obtained from UK HSC

8.2. Exposure controls

8.2.1. Engineering controls

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapours/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Safety glasses with side shields.

Applicable Norms/Standards

Use eye protection conforming to EN 166

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the

substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.

Gloves made from the following material(s) are recommended:

| Material | Thickness (mm) | Breakthrough Time |
|-----------------|----------------|-------------------|
| Butyl rubber. | 0.5 | > 8 hours |
| Fluoroelastomer | 0.4 | > 8 hours |
| Neoprene. | 0.5 | > 8 hours |

The glove data presented are based on the substance driving dermal toxicity and the conditions present at the time of testing. Breakthrough time may be altered when the glove is subjected to use conditions that place additional stress on the glove.

Applicable Norms/Standards

Use gloves tested to EN 374

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapours and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

Applicable Norms/Standards

Use a respirator conforming to EN 140 or EN 136: filter types A & P

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

| | |
|-----------------------|--------------------|
| Physical state | Solid. |
| Colour | Black, Grey, White |

Specific Physical Form:

Paste

Odor

Light Odor

Odour threshold

No data available.

pH

No data available.

Boiling point/boiling range

137 °C

Melting point

No data available.

Flammability (solid, gas)

Not classified

Explosive properties

Not classified

Oxidising properties

Not classified

Flash point

>=70 °C [Test Method:ISO Method] [Details:3679]

>=200 °C

Autoignition temperature

0.6 % volume

Flammable Limits(LEL)

8 % volume

Flammable Limits(UEL)

No data available.

Vapour pressure

1.16 [Ref Std:WATER=1]

Relative density

Insoluble

Water solubility

No data available.

Solubility- non-water

No data available.

Partition coefficient: n-octanol/water

Evaporation rate *No data available.*
Vapour density *No data available.*

Decomposition temperature *No data available.*
Viscosity *No data available.*
Density *No data available.*

9.2. Other information

EU Volatile Organic Compounds *No data available.*

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

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section

10.2 Chemical stability

Stable.

10.3 Possibility of hazardous reactions

Hazardous polymerisation will not occur.

10.4 Conditions to avoid

Not determined

10.5 Incompatible materials

Alcohols.

Amines.

Strong acids.

Reaction with water, alcohols, and amines is not hazardous if container can vent to the atmosphere to prevent pressure buildup.

Alkali and alkaline earth metals.

Water

10.6 Hazardous decomposition products

| <u>Substance</u> | <u>Condition</u> |
|------------------|------------------|
| Carbon dioxide. | Moisture. |

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from 3M assessments.

11.1 Information on Toxicological effects**Signs and Symptoms of Exposure**

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation

Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Allergic respiratory reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest. May cause additional health effects (see below).

Skin contact

Mild Skin Irritation: Signs/symptoms may include localised redness, swelling, itching, and dryness. Allergic skin reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye contact

Contact with the eyes during product use is not expected to result in significant irritation.

Ingestion

Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea. May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:

Auditory effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears.

Prolonged or repeated exposure may cause target organ effects:

Auditory effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears.

Neurological effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and changes in blood pressure and heart rate.

Carcinogenicity:

Contains a chemical or chemicals which can cause cancer.

Additional information:

Persons previously sensitised to isocyanates may develop a cross-sensitisation reaction to other isocyanates.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

| Name | Route | Species | Value |
|--|--------------------------------|------------------------|--|
| Overall product | Dermal | | No data available; calculated ATE >5,000 mg/kg |
| Overall product | Inhalation-Vapour(4 hr) | | No data available; calculated ATE >50 mg/l |
| Overall product | Ingestion | | No data available; calculated ATE >5,000 mg/kg |
| Poly(Vinyl Chloride) | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| Poly(Vinyl Chloride) | Ingestion | | LD50 estimated to be > 5,000 mg/kg |
| Reaction mass of ethylbenzene and xylene | Dermal | Rabbit | LD50 > 4,200 mg/kg |
| Reaction mass of ethylbenzene and xylene | Inhalation-Vapour (4 hours) | Rat | LC50 29 mg/l |
| Reaction mass of ethylbenzene and xylene | Ingestion | Rat | LD50 3,523 mg/kg |
| Titanium dioxide | Dermal | Rabbit | LD50 > 10,000 mg/kg |
| Titanium dioxide | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 6.82 mg/l |
| Titanium dioxide | Ingestion | Rat | LD50 > 10,000 mg/kg |
| Calcium oxide | Ingestion | Rat | LD50 > 2,500 mg/kg |
| Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics | Inhalation-Vapour | Professional judgement | LC50 estimated to be 20 - 50 mg/l |

| | | | |
|--|--------------------------------|--------|--|
| Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Carbon black | Dermal | Rabbit | LD50 > 3,000 mg/kg |
| Carbon black | Ingestion | Rat | LD50 > 8,000 mg/kg |
| 4,4'-methylenediphenyl diisocyanate | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| 4,4'-methylenediphenyl diisocyanate | Inhalation-Dust/Mist (4 hours) | Rat | LC50 0.368 mg/l |
| 4,4'-methylenediphenyl diisocyanate | Ingestion | Rat | LD50 31,600 mg/kg |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | Dermal | | LD50 estimated to be 2,000 - 5,000 mg/kg |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | Ingestion | Rat | LD50 3,125 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|--|-------------------------|---------------------------|
| Poly(Vinyl Chloride) | Professional judgement | No significant irritation |
| Reaction mass of ethylbenzene and xylene | Rabbit | Mild irritant |
| Titanium dioxide | Rabbit | No significant irritation |
| Calcium oxide | Human | Corrosive |
| Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics | Rabbit | Minimal irritation |
| Carbon black | Rabbit | No significant irritation |
| 4,4'-methylenediphenyl diisocyanate | official classification | Irritant |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | Rabbit | No significant irritation |

Serious Eye Damage/Irritation

| Name | Species | Value |
|--|-------------------------|---------------------------|
| Overall product | Rabbit | Mild irritant |
| Reaction mass of ethylbenzene and xylene | Rabbit | Mild irritant |
| Titanium dioxide | Rabbit | No significant irritation |
| Calcium oxide | Rabbit | Corrosive |
| Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics | Rabbit | Mild irritant |
| Carbon black | Rabbit | No significant irritation |
| 4,4'-methylenediphenyl diisocyanate | official classification | Severe irritant |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | Rabbit | No significant irritation |

Skin Sensitisation

| Name | Species | Value |
|--|-------------------------|----------------|
| Titanium dioxide | Human and animal | Not classified |
| Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics | Guinea pig | Not classified |
| 4,4'-methylenediphenyl diisocyanate | official classification | Sensitising |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | Guinea pig | Sensitising |

Respiratory Sensitisation

| Name | Species | Value |
|-------------------------------------|---------|-------------|
| 4,4'-methylenediphenyl diisocyanate | Human | Sensitising |

Germ Cell Mutagenicity

| Name | Route | Value |
|--|----------|--|
| Poly(Vinyl Chloride) | In Vitro | Not mutagenic |
| Reaction mass of ethylbenzene and xylene | In Vitro | Not mutagenic |
| Reaction mass of ethylbenzene and xylene | In vivo | Not mutagenic |
| Titanium dioxide | In Vitro | Not mutagenic |
| Titanium dioxide | In vivo | Not mutagenic |
| Calcium oxide | In Vitro | Not mutagenic |
| Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics | In Vitro | Not mutagenic |
| Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics | In vivo | Not mutagenic |
| Carbon black | In Vitro | Not mutagenic |
| Carbon black | In vivo | Some positive data exist, but the data are not sufficient for classification |
| 4,4'-methylenediphenyl diisocyanate | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | In Vitro | Not mutagenic |

Carcinogenicity

| Name | Route | Species | Value |
|--|----------------|-------------------------|--|
| Poly(Vinyl Chloride) | Not specified. | Rat | Some positive data exist, but the data are not sufficient for classification |
| Reaction mass of ethylbenzene and xylene | Dermal | Rat | Not carcinogenic |
| Reaction mass of ethylbenzene and xylene | Ingestion | Multiple animal species | Not carcinogenic |
| Reaction mass of ethylbenzene and xylene | Inhalation | Human | Some positive data exist, but the data are not sufficient for classification |
| Titanium dioxide | Ingestion | Multiple animal species | Not carcinogenic |
| Titanium dioxide | Inhalation | Rat | Carcinogenic. |
| Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics | Not specified. | Not available | Not carcinogenic |
| Carbon black | Dermal | Mouse | Not carcinogenic |
| Carbon black | Ingestion | Mouse | Not carcinogenic |
| Carbon black | Inhalation | Rat | Carcinogenic. |
| 4,4'-methylenediphenyl diisocyanate | Inhalation | Rat | Some positive data exist, but the data are not sufficient for classification |

Reproductive Toxicity
Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test result | Exposure Duration |
|--|----------------|--|-------------------------|---------------------|-----------------------|
| Poly(Vinyl Chloride) | Not specified. | Not classified for development | Mouse | NOAEL Not available | during gestation |
| Reaction mass of ethylbenzene and xylene | Inhalation | Not classified for female reproduction | Human | NOAEL Not available | occupational exposure |
| Reaction mass of ethylbenzene and xylene | Ingestion | Not classified for development | Mouse | NOAEL Not available | during organogenesis |
| Reaction mass of ethylbenzene and xylene | Inhalation | Not classified for development | Multiple animal species | NOAEL Not available | during gestation |
| Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics | Not specified. | Not classified for female reproduction | Rat | NOAEL Not available | 1 generation |

| | | | | | |
|--|----------------|--------------------------------------|-----|---------------------|----------------------|
| Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics | Not specified. | Not classified for male reproduction | Rat | NOAEL Not available | 1 generation |
| Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics | Not specified. | Not classified for development | Rat | NOAEL Not available | 1 generation |
| 4,4'-methylenediphenyl diisocyanate | Inhalation | Not classified for development | Rat | NOAEL 0.004 mg/l | during organogenesis |

Lactation

| Name | Route | Species | Value |
|--|-----------|---------|--|
| Reaction mass of ethylbenzene and xylene | Ingestion | Mouse | Not classified for effects on or via lactation |

Target Organ(s)
Specific Target Organ Toxicity - single exposure

| Name | Route | Target Organ(s) | Value | Species | Test result | Exposure Duration |
|--|------------|-----------------------------------|--|-------------------------|---------------------|-----------------------|
| Reaction mass of ethylbenzene and xylene | Inhalation | auditory system | Causes damage to organs | Rat | LOAEL 6.3 mg/l | 8 hours |
| Reaction mass of ethylbenzene and xylene | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| Reaction mass of ethylbenzene and xylene | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | |
| Reaction mass of ethylbenzene and xylene | Inhalation | eyes | Not classified | Rat | NOAEL 3.5 mg/l | not available |
| Reaction mass of ethylbenzene and xylene | Inhalation | liver | Not classified | Multiple animal species | NOAEL Not available | |
| Reaction mass of ethylbenzene and xylene | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Multiple animal species | NOAEL Not available | |
| Reaction mass of ethylbenzene and xylene | Ingestion | eyes | Not classified | Rat | NOAEL 250 mg/kg | not applicable |
| Calcium oxide | Inhalation | respiratory irritation | May cause respiratory irritation | Not available | NOAEL Not available | occupational exposure |
| 4,4'-methylenediphenyl diisocyanate | Inhalation | respiratory irritation | May cause respiratory irritation | official classification | NOAEL Not available | |

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test result | Exposure Duration |
|--|------------|---|---|-------------------------|---------------------|-------------------|
| Poly(Vinyl Chloride) | Inhalation | respiratory system | Not classified | Multiple animal species | NOAEL 0.013 mg/l | 22 months |
| Reaction mass of ethylbenzene and xylene | Inhalation | nervous system | Causes damage to organs through prolonged or repeated exposure | Rat | LOAEL 0.4 mg/l | 4 weeks |
| Reaction mass of ethylbenzene and xylene | Inhalation | auditory system | May cause damage to organs through prolonged or repeated exposure | Rat | LOAEL 7.8 mg/l | 5 days |
| Reaction mass of ethylbenzene and xylene | Inhalation | liver | Not classified | Multiple animal species | NOAEL Not available | |
| Reaction mass of ethylbenzene and xylene | Inhalation | heart endocrine system gastrointestinal tract hematopoietic system muscles kidney and/or bladder respiratory system | Not classified | Multiple animal species | NOAEL 3.5 mg/l | 13 weeks |
| Reaction mass of ethylbenzene and xylene | Ingestion | auditory system | Not classified | Rat | NOAEL 900 mg/kg/day | 2 weeks |
| Reaction mass of ethylbenzene and xylene | Ingestion | kidney and/or | Not classified | Rat | NOAEL | 90 days |

| | | | | | | |
|--|------------|--|--|-------------------------|-----------------------|-----------------------|
| ethylbenzene and xylene | | bladder | | | 1,500 mg/kg/day | |
| Reaction mass of ethylbenzene and xylene | Ingestion | liver | Not classified | Multiple animal species | NOAEL Not available | |
| Reaction mass of ethylbenzene and xylene | Ingestion | heart skin endocrine system bone, teeth, nails, and/or hair hematopoietic system immune system nervous system respiratory system | Not classified | Mouse | NOAEL 1,000 mg/kg/day | 103 weeks |
| Titanium dioxide | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 0.01 mg/l | 2 years |
| Titanium dioxide | Inhalation | pulmonary fibrosis | Not classified | Human | NOAEL Not available | occupational exposure |
| Carbon black | Inhalation | pneumoconiosis | Not classified | Human | NOAEL Not available | occupational exposure |
| 4,4'-methylenediphenyl diisocyanate | Inhalation | respiratory system | Causes damage to organs through prolonged or repeated exposure | Rat | LOAEL 0.004 mg/l | 13 weeks |

Aspiration Hazard

| Name | Value |
|--|-------------------|
| Reaction mass of ethylbenzene and xylene | Aspiration hazard |
| Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics | Aspiration hazard |

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications.

12.1. Toxicity

No product test data available.

| Material | CAS # | Organism | Type | Exposure | Test endpoint | Test result |
|--|-----------|---------------|---|----------|---------------|-------------|
| Poly(Vinyl Chloride) | 9002-86-2 | | Data not available or insufficient for classification | | | |
| Reaction mass of ethylbenzene and xylene | 905-588-0 | Water flea | Estimated | 24 hours | IC50 | 1 mg/l |
| Reaction mass of ethylbenzene and xylene | 905-588-0 | Rainbow trout | Estimated | 96 hours | LC50 | 2.6 mg/l |
| Reaction mass of ethylbenzene and xylene | 905-588-0 | Green Algae | Estimated | 73 hours | EC50 | 1.3 mg/l |
| Reaction mass of ethylbenzene and xylene | 905-588-0 | Green Algae | Estimated | 73 hours | NOEC | 0.44 mg/l |
| Reaction mass of ethylbenzene and xylene | 905-588-0 | Rainbow trout | Estimated | 56 days | NOEC | >1.3 mg/l |

| | | | | | | |
|--|------------|----------------|---|----------|---------------------|--------------|
| Reaction mass of ethylbenzene and xylene | 905-588-0 | Water flea | Estimated | 7 days | NOEC | 0.96 mg/l |
| Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics | 926-141-6 | Green Algae | Experimental | 72 hours | Effect Level 50% | >1,000 mg/l |
| Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics | 926-141-6 | Water flea | Experimental | 48 hours | Effect Level 50% | >1,000 mg/l |
| Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics | 926-141-6 | Rainbow trout | Experimental | 96 hours | Lethal Level 50% | >1,000 mg/l |
| Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics | 926-141-6 | Green Algae | Experimental | 72 hours | No obs Effect Level | 1,000 mg/l |
| Titanium dioxide | 13463-67-7 | Diatom | Experimental | 72 hours | EC50 | >10,000 mg/l |
| Titanium dioxide | 13463-67-7 | Fathead minnow | Experimental | 96 hours | LC50 | >100 mg/l |
| Titanium dioxide | 13463-67-7 | Water flea | Experimental | 48 hours | EC50 | >100 mg/l |
| Titanium dioxide | 13463-67-7 | Diatom | Experimental | 72 hours | NOEC | 5,600 mg/l |
| Calcium oxide | 1305-78-8 | Common Carp | Experimental | 96 hours | LC50 | 1,070 mg/l |
| 4,4'-methylenediphenyl diisocyanate | 101-68-8 | Water flea | Estimated | 24 hours | EC50 | >1,000 mg/l |
| 4,4'-methylenediphenyl diisocyanate | 101-68-8 | Green algae | Estimated | 72 hours | EC50 | >1,640 mg/l |
| 4,4'-methylenediphenyl diisocyanate | 101-68-8 | Zebra Fish | Estimated | 96 hours | LC50 | >1,000 mg/l |
| 4,4'-methylenediphenyl diisocyanate | 101-68-8 | Green algae | Estimated | 72 hours | NOEC | 1,640 mg/l |
| 4,4'-methylenediphenyl diisocyanate | 101-68-8 | Water flea | Estimated | 21 days | NOEC | 10 mg/l |
| Carbon black | 1333-86-4 | | Data not available or insufficient for classification | | | |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | 915-687-0 | Green algae | Experimental | 72 hours | EC50 | 1.68 mg/l |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | 915-687-0 | Zebra Fish | Experimental | 96 hours | LC50 | 0.9 mg/l |

| | | | | | | |
|--|-----------|-------------|--------------|----------|------|-----------|
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | 915-687-0 | Water flea | Experimental | 21 days | NOEC | 1 mg/l |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | 915-687-0 | Green algae | Experimental | 72 hours | NOEC | 0.22 mg/l |

12.2. Persistence and degradability

| Material | CAS Nbr | Test type | Duration | Study Type | Test result | Protocol |
|--|------------|-------------------------------|----------|--------------------------------|------------------|-------------------------------------|
| Poly(Vinyl Chloride) | 9002-86-2 | Data not availbl-insufficient | | | N/A | |
| Reaction mass of ethylbenzene and xylene | 905-588-0 | Experimental Biodegradation | 28 days | BOD | 98 % BOD/ThBOD | OECD 301F - Manometric respirometry |
| Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics | 926-141-6 | Experimental Biodegradation | 28 days | BOD | 69 % BOD/ThBOD | OECD 301F - Manometric respirometry |
| Titanium dioxide | 13463-67-7 | Data not availbl-insufficient | | | N/A | |
| Calcium oxide | 1305-78-8 | Data not availbl-insufficient | | | N/A | |
| 4,4'-methylenediphenyl diisocyanate | 101-68-8 | Estimated Hydrolysis | | Hydrolytic half-life | 20 hours (t 1/2) | Other methods |
| Carbon black | 1333-86-4 | Data not availbl-insufficient | | | N/A | |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | 915-687-0 | Estimated Biodegradation | 28 days | Dissolv. Organic Carbon Deplet | 38 % weight | OECD 301E - Modified OECD Scree |

12.3 : Bioaccumulative potential

| Material | Cas No. | Test type | Duration | Study Type | Test result | Protocol |
|--|------------|---|----------|------------------------|-------------|---------------|
| Poly(Vinyl Chloride) | 9002-86-2 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| Reaction mass of ethylbenzene and xylene | 905-588-0 | Experimental BCF - Rainbow Tr | 56 days | Bioaccumulation factor | 25.9 | Other methods |
| Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics | 926-141-6 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| Titanium dioxide | 13463-67-7 | Experimental BCF-Carp | 42 days | Bioaccumulation factor | 9.6 | Other methods |
| Calcium oxide | 1305-78-8 | Data not available or insufficient for | N/A | N/A | N/A | N/A |

| | | classification | | | | |
|--|-----------|---|---------|------------------------|------|--|
| 4,4'-methylenebisphenyl disocyanate | 101-68-8 | Experimental BCF-Carp | 28 days | Bioaccumulation factor | 200 | OECD 305E - Bioaccumulation flow-through fish test |
| Carbon black | 1333-86-4 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | 915-687-0 | Estimated BCF-Carp | 56 days | Bioaccumulation factor | 31.4 | |

12.4. Mobility in soil

Please contact manufacturer for more details

12.5. Results of the PBT and vPvB assessment

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

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of waste product in a permitted industrial waste facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of the manufacturer, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/CE and amendments) to assign the correct waste code to your waste stream. Ensure national and/or regional regulations are complied with and always use a licensed waste contractor

EU waste code (product as sold)

08 04 09* Waste adhesives and sealants containing organic solvents or other dangerous substances

SECTION 14: Transportation information

Not regulated for transportation.

SECTION 15: Regulatory information

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

Carcinogenicity

Ingredient
Carbon black

CAS Nbr
1333-86-4

Classification
Grp. 2B: Possible human
carc.

Regulation
International Agency
for Research on Cancer

| | | | |
|-------------------------------------|------------|-------------------------------|---|
| 4,4'-methylenediphenyl diisocyanate | 101-68-8 | Carc. 2 | Regulation (EC) No. 1272/2008, Table 3.1 |
| 4,4'-methylenediphenyl diisocyanate | 101-68-8 | Gr. 3: Not classifiable | International Agency for Research on Cancer |
| Poly(Vinyl Chloride) | 9002-86-2 | Gr. 3: Not classifiable | International Agency for Research on Cancer |
| Titanium dioxide | 13463-67-7 | Grp. 2B: Possible human carc. | International Agency for Research on Cancer |

Restrictions on the manufacture, placing on the market and use:

The following substance(s) contained in this product is/are subject through Annex XVII of REACH regulation to restrictions on the manufacture, placing on the market and use when present in certain dangerous substances, mixtures and articles. Users of this product are required to comply with the restrictions placed upon it by the aforementioned provision.

| <u>Ingredient</u> | <u>CAS Nbr</u> |
|-------------------------------------|----------------|
| 4,4'-methylenediphenyl diisocyanate | 101-68-8 |

Restriction status: listed in REACH Annex XVII

Restricted uses: See Annex XVII to Regulation (EC) No 1907/2006 for Conditions of Restriction

| <u>Ingredient</u> | <u>CAS Nbr</u> |
|-------------------|----------------|
|-------------------|----------------|

Authorization status: listed in the Candidate List of Substances of Very High Concern for Authorization

15.2. Chemical Safety Assessment

A chemical safety assessment has not been carried out for this mixture. Chemical safety assessments for the contained substances may have been carried out by the registrants of the substances in accordance with Regulation (EC) No 1907/2006, as amended.

SECTION 16: Other information
List of relevant H statements

| | |
|--------|--|
| EUH066 | Repeated exposure may cause skin dryness or cracking. |
| EUH071 | Corrosive to the respiratory tract. |
| H226 | Flammable liquid and vapour. |
| H304 | May be fatal if swallowed and enters airways. |
| 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. |
| H319 | Causes serious eye irritation. |
| H332 | Harmful if inhaled. |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H335 | May cause respiratory irritation. |
| H351 | Suspected of causing cancer. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |

Revision information:

Section 3: Composition/ Information of ingredients table information was modified.

Section 12: Component ecotoxicity information was modified.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications. In addition, this SDS is being provided to convey health and safety information. If you are the importer of record of this product into the European Union, you are responsible for all regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration.