




**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

- 1.1 Product identifier:** 10513506 - FIX-R Primer 10 4L  
**Other means of identification:**  
Not relevant
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**  
Relevant uses (Professional users): Primers  
Relevant uses (Industrial user): Primers  
For Professional users/Industrial user only.  
Uses advised against: All uses not specified in this section or in section 7.3
- 1.3 Details of the supplier of the safety data sheet:**  
FIX-R  
Harding Way  
PE27 3YJ St Ives - Cambridgeshire - United Kingdom  
Phone: +44 (0) 1480 466 777  
sigassured@sigplc.com  
www.fix-r.co.uk
- 1.4 Emergency telephone number:** +44 (0) 1274 696979 (Monday - Friday 8am - 5pm GMT)

**SECTION 2: HAZARDS IDENTIFICATION**

- 2.1 Classification of the substance or mixture:**  
**GB CLP Regulation (UK S.I. 2019/720 and UK S.I. 2020/1567):**  
Classification of this product has been carried out in accordance with GB CLP Regulation (UK S.I. 2019/720 and UK S.I. 2020/1567).  
Aquatic Chronic 3: Hazardous to the aquatic environment, long-term hazard, Category 3, H412  
Carc. 2: Carcinogenicity, Category 2, H351  
Eye Irrit. 2: Eye irritation, Category 2, H319  
Flam. Liq. 3: Flammable liquids, Category 3, H226  
Resp. Sens. 1: Sensitisation, respiratory, Category 1, H334  
Skin Irrit. 2: Skin irritation, Category 2, H315  
Skin Sens. 1: Sensitisation, skin, Category 1, H317  
STOT RE 2: Specific target organ toxicity — Repeated exposure, Hazard Category 2 (Oral), H373  
STOT SE 3: Respiratory tract toxicity, single exposure, Category 3, H335
- 2.2 Label elements:**  
**GB CLP Regulation (UK S.I. 2019/720 and UK S.I. 2020/1567):**  
Danger
- 


- Hazard statements:**  
Aquatic Chronic 3: H412 - Harmful to aquatic life with long lasting effects.  
Carc. 2: H351 - Suspected of causing cancer.  
Eye Irrit. 2: H319 - Causes serious eye irritation.  
Flam. Liq. 3: H226 - Flammable liquid and vapour.  
Resp. Sens. 1: H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
Skin Irrit. 2: H315 - Causes skin irritation.  
Skin Sens. 1: H317 - May cause an allergic skin reaction.  
STOT RE 2: H373 - May cause damage to organs through prolonged or repeated exposure (Oral). Organs affected: All gross lesions and masses.  
STOT SE 3: H335 - May cause respiratory irritation.
- Precautionary statements:**

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## SECTION 2: HAZARDS IDENTIFICATION (continued)

P201: Obtain special instructions before use.  
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P233: Keep container tightly closed.  
P260: Do not breathe vapours  
P261: Avoid breathing vapours  
P264: Wash thoroughly after handling.  
P271: Use only outdoors or in a well-ventilated area.  
P273: Avoid release to the environment.  
P280: Wear protective gloves/face protection/protective clothing/respiratory protection/protective footwear.  
P284: Wear respiratory protection.  
P302+P352: IF ON SKIN: Wash with plenty of soap and water.  
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308+P313: IF exposed or concerned: Get medical advice/attention.  
P312: Call a POISON CENTER or doctor/physician if you feel unwell.  
P342+P311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.  
P370+P378: In case of fire: Use Foam extinguisher (AB), Dry Chemical Powder (ABC) Fire Extinguisher, Carbon dioxide extinguisher (BC) to extinguish.  
P403+P233: Store in a well-ventilated place. Keep container tightly closed.  
P403+P235: Store in a well-ventilated place. Keep cool.  
P501: Dispose of the contents and/or its container in line with regulations on dangerous waste or packaging and waste packaging respectively.

### Supplementary information:

EUH204: Contains isocyanates. May produce an allergic reaction.

### Substances that contribute to the classification

Reaction mass of ethylbenzene and m-xylene and p-xylene; 4,4'-methylenediphenyl diisocyanate, isomers and homologues (CAS: 9016-87-9); Reaction products of 1,1'-methylenebis(4-isocyanatobenzene) in excess with 2,2'-[(methylene)bis(oxy)]di(methylethanol), butane-1,3-diol, propane-1,2-diol and 1,1'-methylenebis(4-isocyanatobenzene) homopolymer

### Additional Labelling:

As from 24 August 2023 adequate training is required before industrial or professional use.

### Additional labeling:

RCH004a Persons already sensitised to diisocyanates may develop allergic reactions when using this product.

RCH004b Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product.

RCH004c This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used.

### 2.3 Other hazards:

Product does not meet PBT/vPvB criteria

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substance:




Not relevant

### 3.2 Mixture:

**Chemical description:** Mixture of substances


### Components:

In accordance with Annex II of The REACH etc. (Amendment etc.) (EU Exit) Regulations 2020, the product contains:

Identification	Chemical name/Classification	Concentration
CAS: Not relevant 905-562-9 EC: 01-2119555267-33-XXXX REACH: XXXX	<b>Reaction mass of ethylbenzene and m-xylene and p-xylene</b> Acute Tox. 4: H312+H332; Aquatic Chronic 3: H412; Asp. Tox. 1: H304; Eye Irrit. 2: H319; Flam. Liq. 3: H226; Skin Irrit. 2: H315; STOT RE 2: H373; STOT SE 3: H335 - Danger	 50 - <75 %
CAS: 9016-87-9 EC: 618-498-9 REACH: NULL	<b>4,4'-methylenediphenyl diisocyanate, isomers and homologues</b> Acute Tox. 4: H332; Carc. 2: H351; Eye Irrit. 2: H319; Resp. Sens. 1: H334; Skin Irrit. 2: H315; Skin Sens. 1: H317; STOT RE 2: H373; STOT SE 3: H335 - Danger	 1 - <5 %
CAS: Not relevant 500-313-7 EC: 01-2119486870-28-XXXX REACH: XXXX	<b>Reaction products of 1,1'-methylenebis(4-isocyanatobenzene) in excess with 2,2'-[(methylene)bis(oxy)]di(methylethanol), butane-1,3-diol, propane-1,2-diol and 1,1'-methylenebis(4-isocyanatobenzene) homopolymer</b> Acute Tox. 4: H332; Carc. 2: H351; Eye Irrit. 2: H319; Resp. Sens. 1: H334; Skin Irrit. 2: H315; Skin Sens. 1: H317; STOT RE 2: H373; STOT SE 3: H335; EUH204 - Danger	 1 - <5 %

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**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS (continued)**

Identification	Chemical name/Classification	Concentration
CAS: 5873-54-1 EC: 227-534-9 REACH: 01-2119480143-45-XXXX	<b>Diphenylmethane-2,4'-diisocyanate</b> Acute Tox. 4: H332; Carc. 2: H351; Eye Irrit. 2: H319; Resp. Sens. 1: H334; Skin Irrit. 2: H315; Skin Sens. 1: H317; STOT RE 2: H373; STOT SE 3: H335 - Danger	 0.1 - <1 %

To obtain more information on the hazards of the substances consult sections 11, 12 and 16.

**Other information:**

Identification	Specific concentration limit
4,4'-methylenediphenyl diisocyanate, isomers and homologues CAS: 9016-87-9	% (w/w) >=5: Skin Irrit. 2 - H315 % (w/w) >=5: Eye Irrit. 2 - H319 % (w/w) >=0.1: Resp. Sens. 1 - H334 % (w/w) >=5: STOT SE 3 - H335
Reaction products of 1,1'-methylenebis(4-isocyanatobenzene) in excess with 2,2'-[(methylene)bis(oxy)]di(methylethanol), butane-1,3-diol, propane-1,2-diol and 1,1'-methylenebis(4-isocyanatobenzene) homopolymer CAS: Not relevant	% (w/w) >=5: Skin Irrit. 2 - H315 % (w/w) >=5: Eye Irrit. 2 - H319 % (w/w) >=0.1: Resp. Sens. 1 - H334 % (w/w) >=5: STOT SE 3 - H335

Acute toxicity estimate for the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or as determined in accordance with Annex I to that Regulation:

Identification	Acute toxicity		Genus
4,4'-methylenediphenyl diisocyanate, isomers and homologues CAS: 9016-87-9 EC: 618-498-9	LD50 oral	Not relevant	
	LD50 dermal	Not relevant	
	LC50 inhalation vapour	11 mg/L	
Reaction products of 1,1'-methylenebis(4-isocyanatobenzene) in excess with 2,2'-[(methylene)bis(oxy)]di(methylethanol), butane-1,3-diol, propane-1,2-diol and 1,1'-methylenebis(4-isocyanatobenzene) homopolymer CAS: Not relevant EC: 500-313-7	LD50 oral	Not relevant	
	LD50 dermal	Not relevant	
	LC50 inhalation vapour	11 mg/L	
Reaction mass of ethylbenzene and m-xylene and p-xylene CAS: Not relevant EC: 905-562-9	LD50 oral	Not relevant	
	LD50 dermal	1100 mg/kg	Rat
	LC50 inhalation vapour	11 mg/L	

**SECTION 4: FIRST AID MEASURES**
**4.1 Description of first aid measures:**

The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort, showing the SDS of this product.

**By inhalation:**

Remove the person affected from the area of exposure, provide with fresh air and keep at rest. In serious cases such as cardiorespiratory failure, artificial resuscitation techniques will be necessary (mouth to mouth resuscitation, cardiac massage, oxygen supply, etc.) requiring immediate medical assistance.

**By skin contact:**

Remove contaminated clothing and footwear, rinse skin or shower the person affected if appropriate with plenty of cold water and neutral soap. In serious cases see a doctor. If the product causes burns or freezing, clothing should not be removed as this could worsen the injury caused if it is stuck to the skin. If blisters form on the skin, these should never be burst as this will increase the risk of infection.

**By eye contact:**

Rinse eyes thoroughly with lukewarm water for at least 15 minutes. Do not allow the person affected to rub or close their eyes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, in which case this could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the SDS of the product.

**By ingestion/aspiration:**

Do not induce vomiting, but if it does happen keep the head down to avoid aspiration. Keep the person affected at rest. Rinse out the mouth and throat, as they may have been affected during ingestion.

**4.2 Most important symptoms and effects, both acute and delayed:**

Acute and delayed effects are indicated in sections 2 and 11.

**4.3 Indication of any immediate medical attention and special treatment needed:**

Not relevant

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## SECTION 5: FIREFIGHTING MEASURES

### 5.1 Extinguishing media:

#### Suitable extinguishing media:

Foam extinguisher (AB), Dry Chemical Powder (ABC) Fire Extinguisher, Carbon dioxide extinguisher (BC)

#### Unsuitable extinguishing media:

Water jet

### 5.2 Special hazards arising from the substance or mixture:

As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk.

### 5.3 Advice for firefighters:

Depending on the magnitude of the fire it may be necessary to use full protective clothing and Self Contained Breathing Apparatus. Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...)

#### Additional provisions:

Act in accordance with the Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. Eliminate all sources of ignition. In case of fire, cool the storage containers and tanks for products susceptible to combustion, explosion or BLEVE as a result of high temperatures. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures:

#### For non-emergency personnel:

Isolate leaks provided that there is no additional risk for the people performing this task. Evacuate the area and keep out those without protection. Personal protection equipment must be used against potential contact with the spilt product (See section 8). Above all prevent the formation of any vapour-air flammable mixtures, through either ventilation or the use of an inert medium. Remove any source of ignition. Eliminate electrostatic charges by interconnecting all the conductive surfaces on which static electricity could form, and also ensuring that all surfaces are connected to the ground.

#### For emergency responders:

Wear protective equipment. Keep unprotected persons away. See section 8.

### 6.2 Environmental precautions:

Avoid at all cost any type of spillage into an aqueous medium. Contain the product absorbed appropriately in hermetically sealed containers. Notify the relevant authority in case of exposure to the general public or the environment.

### 6.3 Methods and material for containment and cleaning up:

It is recommended:

Prevent the entrance of product in drains, sewers or watercourses. Absorb the spill using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. Collect the product in appropriate containers and manage it according to current legislation.

Spillages in water or sea:

Small spillages:

Contain spillage using barriers or similar equipment. Use suitable absorbents for collection and treat the waste in accordance with current regulations.

Large spillages:

If possible, contain spillage in open water using barriers or similar equipment. If this is not possible, try to control its spread and collect the product with suitable mechanical means. Always consult experts before using dispersants and make sure you have the necessary approvals if they are to be used. Treat the waste according to current regulations.

### 6.4 Reference to other sections:

See sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### 7.1 Precautions for safe handling:

A.- General precautions for safe use

Comply with the current legislation concerning the prevention of industrial risks. Keep containers hermetically sealed. Control spills and residues, destroying them with safe methods (section 6). Avoid leakages from the container. Maintain order and cleanliness where dangerous products are used.

B.- Technical recommendations for the prevention of fires and explosions

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## SECTION 7: HANDLING AND STORAGE (continued)

Transfer in well ventilated areas, preferably through localized extraction. Fully control sources of ignition (mobile phones, sparks,...) and ventilate during cleaning operations. Avoid the existence of dangerous atmospheres inside containers, applying inertization systems where possible. Transfer at a slow speed to avoid the creation of electrostatic charges. Against the possibility of electrostatic charges: ensure a perfect equipotential connection, always use groundings, do not wear work clothes made of acrylic fibres, preferably wearing cotton clothing and conductive footwear. Comply with the essential security requirements for equipment and systems defined in The Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016 and with the minimum requirements for protecting the security and health of workers under the selection criteria of The Dangerous Substances and Explosive Atmospheres Regulations 2002, 2002 No. 2776. Consult section 10 for conditions and materials that should be avoided.

C.- Technical recommendations on general occupational hygiene

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

D.- Technical recommendations to prevent environmental risks

Due to the danger of this product for the environment it is recommended to use it within an area containing contamination control barriers in case of spillage, as well as having absorbent material in close proximity.

### 7.2 Conditions for safe storage, including any incompatibilities:

A.- Specific storage requirements

Store in a cool, dry, well-ventilated location

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

### 7.3 Specific end use(s):

See Section 1.2

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters:

Substances whose occupational exposure limits have to be assessed in the workplace:

There are no applicable occupational exposure limits for the substances contained in the product

#### Biological limit values:

#### BIOLOGICAL MONITORING GUIDANCE VALUES (BMGVs) - EH40/2005

Identification	NULL	NULL	NULL
Reaction mass of ethylbenzene and m-xylene and p-xylene CAS: Not relevant	1030 mg/g (Creatinine)	Methyl hippuric acid in urine	Post shift

#### DNEL (Workers):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Reaction mass of ethylbenzene and m-xylene and p-xylene CAS: Not relevant EC: 905-562-9	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	212 mg/kg	Not relevant
	Inhalation	442 mg/m <sup>3</sup>	442 mg/m <sup>3</sup>	221 mg/m <sup>3</sup>	221 mg/m <sup>3</sup>
4,4'-methylenediphenyl diisocyanate, isomers and homologues CAS: 9016-87-9 EC: 618-498-9	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	Not relevant	Not relevant
	Inhalation	Not relevant	0.1 mg/m <sup>3</sup>	Not relevant	0.05 mg/m <sup>3</sup>
Reaction products of 1,1'-methylenebis(4-isocyanatobenzene) in excess with 2,2'-[(methylene)bis(oxy)]di(methylethanol), butane-1,3-diol, propane-1,2-diol and 1,1'-methylenebis(4-isocyanatobenzene) homopolymer CAS: Not relevant EC: 500-313-7	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	Not relevant	Not relevant
	Inhalation	Not relevant	0.1 mg/m <sup>3</sup>	Not relevant	0.05 mg/m <sup>3</sup>
Diphenylmethane-2,4'-diisocyanate CAS: 5873-54-1 EC: 227-534-9	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	Not relevant	Not relevant
	Inhalation	Not relevant	0.1 mg/m <sup>3</sup>	Not relevant	0.05 mg/m <sup>3</sup>

#### DNEL (General population):

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**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)**

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Reaction mass of ethylbenzene and m-xylene and p-xylene CAS: Not relevant EC: 905-562-9	Oral	Not relevant	Not relevant	12.5 mg/kg	Not relevant
	Dermal	Not relevant	Not relevant	125 mg/kg	Not relevant
	Inhalation	260 mg/m <sup>3</sup>	260 mg/m <sup>3</sup>	65.3 mg/m <sup>3</sup>	65.3 mg/m <sup>3</sup>
4,4'-methylenediphenyl diisocyanate, isomers and homologues CAS: 9016-87-9 EC: 618-498-9	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	Not relevant	Not relevant
	Inhalation	Not relevant	0.05 mg/m <sup>3</sup>	Not relevant	0.025 mg/m <sup>3</sup>
Reaction products of 1,1'-methylenebis(4-isocyanatobenzene) in excess with 2,2'-[(methylene)bis(oxy)]di(methylethanol), butane-1,3-diol, propane-1,2-diol and 1,1'-methylenebis(4-isocyanatobenzene) homopolymer CAS: Not relevant EC: 500-313-7	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	Not relevant	Not relevant
	Inhalation	Not relevant	0.05 mg/m <sup>3</sup>	Not relevant	0.025 mg/m <sup>3</sup>
Diphenylmethane-2,4'-diisocyanate CAS: 5873-54-1 EC: 227-534-9	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	Not relevant	Not relevant
	Inhalation	Not relevant	0.05 mg/m <sup>3</sup>	Not relevant	0.025 mg/m <sup>3</sup>

**PNEC:**


Identification				
Reaction mass of ethylbenzene and m-xylene and p-xylene CAS: Not relevant EC: 905-562-9	STP	6.58 mg/L	Fresh water	0.327 mg/L
	Soil	2.31 mg/kg	Marine water	0.327 mg/L
	Intermittent	0.327 mg/L	Sediment (Fresh water)	12.46 mg/kg
	Oral	Not relevant	Sediment (Marine water)	12.46 mg/kg
4,4'-methylenediphenyl diisocyanate, isomers and homologues CAS: 9016-87-9 EC: 618-498-9	STP	1 mg/L	Fresh water	1 mg/L
	Soil	1 mg/kg	Marine water	0.1 mg/L
	Intermittent	10 mg/L	Sediment (Fresh water)	Not relevant
	Oral	Not relevant	Sediment (Marine water)	Not relevant
Reaction products of 1,1'-methylenebis(4-isocyanatobenzene) in excess with 2,2'-[(methylene)bis(oxy)]di(methylethanol), butane-1,3-diol, propane-1,2-diol and 1,1'-methylenebis(4-isocyanatobenzene) homopolymer CAS: Not relevant EC: 500-313-7	STP	1 mg/L	Fresh water	1 mg/L
	Soil	1 mg/kg	Marine water	0.1 mg/L
	Intermittent	10 mg/L	Sediment (Fresh water)	Not relevant
	Oral	Not relevant	Sediment (Marine water)	Not relevant
Diphenylmethane-2,4'-diisocyanate CAS: 5873-54-1 EC: 227-534-9	STP	1 mg/L	Fresh water	1 mg/L
	Soil	1 mg/kg	Marine water	0.1 mg/L
	Intermittent	10 mg/L	Sediment (Fresh water)	Not relevant
	Oral	Not relevant	Sediment (Marine water)	Not relevant

**8.2 Exposure controls:**

A.- Individual protection measures, such as personal protective equipment

As a preventative measure it is recommended to use basic Personal Protective Equipment, with the corresponding <<UKCA marking>> or <<CE marking>>. For more information on Personal Protective Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For more information see subsection 7.1. All information contained herein is a recommendation which needs some specification from the labour risk prevention services as it is not known whether the company has additional measures at its disposal.


B.- Respiratory protection

Pictogram	PPE	Remarks
 Mandatory respiratory tract protection	Filter mask for gases and vapours	Replace when there is a taste or smell of the contaminant inside the face mask. If the contaminant comes with warnings it is recommended to use isolation equipment.

C.- Specific protection for the hands


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**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)**



Pictogram	PPE	Remarks
 Mandatory hand protection	NON-disposable chemical protective gloves	The Breakthrough Time indicated by the manufacturer must exceed the period during which the product is being used. Do not use protective creams after the product has come into contact with skin.

As the product is a mixture of several substances, the resistance of the glove material can not be calculated in advance with total reliability and has therefore to be checked prior to the application.

**D.- Eye and face protection**



Pictogram	PPE	Remarks
 Mandatory face protection	Face shield	Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing.

**E.- Body protection**

Pictogram	PPE	Remarks
 Mandatory complete body protection	Disposable clothing for protection against chemical risks, with antistatic and fireproof properties	For professional use only. Clean periodically according to the manufacturer's instructions.
 Mandatory foot protection	Safety footwear for protection against chemical risk, with antistatic and heat resistant properties	Replace boots at any sign of deterioration.

**F.- Additional emergency measures**

It is advised to implement additional emergency equipments in workplaces that are particularly exposed to the product or in situations where risk assessments highlight the necessity of such equipments.

Emergency measure	Standards	Emergency measure	Standards
 Emergency shower	ANSI Z358-1 ISO 3864-1:2011, ISO 3864-4:2011	 Eyewash stations	DIN 12 899 ISO 3864-1:2011, ISO 3864-4:2011

**Environmental exposure controls:**

To comply with environmental protection regulations, it is recommended to prevent any spillage of the product and its container. For more detailed information, please refer to subsection 7.1.D.

**The Volatile Organic Compounds in Paints, Varnishes and Vehicle Refinishing Products Regulations 2012:**

V.O.C. (Supply):	50 % weight
V.O.C. density at 20 °C:	495 kg/m <sup>3</sup> (495 g/L)

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

**9.1 Information on basic physical and chemical properties:**

For complete information see the product datasheet.

**Appearance:**

Physical state at 20 °C:	Liquid
Appearance:	Not relevant *
Colour:	Brown
Odour:	Characteristic
Odour threshold:	Not relevant *

**Volatility:**

\*Not relevant due to the nature of the product, not providing information property of its hazards.

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**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)**

Boiling point at atmospheric pressure:	Not relevant *
Vapour pressure at 20 °C:	Not relevant *
Vapour pressure at 50 °C:	Not relevant *
Evaporation rate at 20 °C:	Not relevant *
<b>Product description:</b>	
Density at 20 °C:	ca. 900 - 1000 kg/m <sup>3</sup>
Relative density at 20 °C:	Not relevant *
Dynamic viscosity at 20 °C:	ca. 60 - 100 mPa·s
Kinematic viscosity at 20 °C:	>20.5 mm <sup>2</sup> /s
Kinematic viscosity at 40 °C:	Not relevant *
Concentration:	Not relevant *
pH:	Not relevant *
Vapour density at 20 °C:	Not relevant *
Partition coefficient n-octanol/water 20 °C:	Not relevant *
Solubility in water at 20 °C:	Not relevant *
Solubility properties:	Not relevant *
Decomposition temperature:	Not relevant *
Melting point/freezing point:	Not relevant *
<b>Flammability:</b>	
Flash Point:	28 °C
Flammability (solid, gas):	Not relevant *
Autoignition temperature:	Not relevant *
Lower flammability limit:	Not relevant *
Upper flammability limit:	Not relevant *
<b>Particle characteristics:</b>	
Median equivalent diameter:	Not relevant *

**9.2 Other information:****Information with regard to physical hazard classes:**

Explosive properties:	Not relevant *
Oxidising properties:	Not relevant *
Corrosive to metals:	Not relevant *
Heat of combustion:	Not relevant *
Aerosols-total percentage (by mass) of flammable components:	Not relevant *

**Other safety characteristics:**

Surface tension at 20 °C:	Not relevant *
Refraction index:	Not relevant *

\*Not relevant due to the nature of the product, not providing information property of its hazards.

**SECTION 10: STABILITY AND REACTIVITY****10.1 Reactivity:**

No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7 from Safety Data Sheet.

**10.2 Chemical stability:**

Chemically stable under the indicated conditions of storage, handling and use.

**10.3 Possibility of hazardous reactions:**

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## SECTION 10: STABILITY AND REACTIVITY (continued)

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

### 10.4 Conditions to avoid:

Applicable for handling and storage at room temperature:

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Not applicable	Not applicable	Risk of combustion	Avoid direct impact	Not applicable

### 10.5 Incompatible materials:

Acids	Water	Oxidising materials	Combustible materials	Others
Avoid strong acids	Not applicable	Avoid direct impact	Not applicable	Avoid alkalis or strong bases

### 10.6 Hazardous decomposition products:

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO<sub>2</sub>), carbon monoxide and other organic compounds.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects:

The experimental information related to the toxicological properties of the product itself is not available

#### Dangerous health implications:

In case of exposure that is repetitive, prolonged or at concentrations higher than the recommended occupational exposure limits, adverse effects on health may result, depending on the means of exposure:

#### A- Ingestion (acute effect):

- Acute toxicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for consumption. For more information see section 3
- Corrosivity/Irritability: The consumption of a considerable dose can cause irritation in the throat, abdominal pain, nausea and vomiting.

#### B- Inhalation (acute effect):

- Acute toxicity : Based on available data, the classification criteria are not met. However, it contains substances classified as hazardous for inhalation. For more information see section 3.
- Corrosivity/Irritability: Causes irritation in respiratory passages, which is normally reversible and limited to the upper respiratory passages.

#### C- Contact with the skin and the eyes (acute effect):

- Contact with the skin: Produces skin inflammation.
- Contact with the eyes: Produces eye damage after contact.

#### D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):

- Carcinogenicity: Exposure to this product can cause cancer. For more specific information on the possible health effects see section 2.  
IARC: 4,4'-methylenediphenyl diisocyanate, isomers and homologues (3); Reaction mass of ethylbenzene and m-xylene and p-xylene (3)
- Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.
- Reproductive toxicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

#### E- Sensitizing effects:

- Respiratory: Prolonged exposure can result in specific respiratory hypersensitivity.
- Skin: Prolonged contact with the skin can result in episodes of allergic contact dermatitis.

#### F- Specific target organ toxicity (STOT) - single exposure:

Causes irritation in respiratory passages, which is normally reversible and limited to the upper respiratory passages.

#### G- Specific target organ toxicity (STOT)-repeated exposure:

- CONTINUED ON NEXT PAGE -

## SECTION 11: TOXICOLOGICAL INFORMATION (continued)

- Specific target organ toxicity (STOT)-repeated exposure: Exposure in high concentration can interfere with the central nervous system causing headache, dizziness, vertigo, nausea, vomiting, confusion, and in serious cases, loss of consciousness. Organs affected: All gross lesions and masses.
- Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

H- Aspiration hazard:

Based on available data, the classification criteria are not met. However, it does contain substances classified as hazardous for this effect. For more information see section 3.

**Other information:**

Not relevant

**Specific toxicology information on the substances:**

Identification	Acute toxicity		Genus
4,4'-methylenediphenyl diisocyanate, isomers and homologues CAS: 9016-87-9 EC: 618-498-9	LD50 oral	>2000 mg/kg	
	LD50 dermal	>2000 mg/kg	
	LC50 inhalation vapour	11 mg/L	
Reaction products of 1,1'-methylenebis(4-isocyanatobenzene) in excess with 2,2'-[(methylene)bis(oxy)]di(methylethanol), butane-1,3-diol, propane-1,2-diol and 1,1'-methylenebis(4-isocyanatobenzene) homopolymer CAS: Not relevant EC: 500-313-7	LD50 oral	>5000 mg/kg	Rat
	LD50 dermal	9400 mg/kg	Rabbit
	LC50 inhalation vapour	11 mg/L	
Reaction mass of ethylbenzene and m-xylene and p-xylene CAS: Not relevant EC: 905-562-9	LD50 oral	2100 mg/kg	Rat
	LD50 dermal	1100 mg/kg	Rat
	LC50 inhalation vapour	11 mg/L	
Diphenylmethane-2,4'-diisocyanate CAS: 5873-54-1 EC: 227-534-9	LD50 oral	>2000 mg/kg	
	LD50 dermal	9400 mg/kg	Rat
	LC50 inhalation dust	1.5 mg/L	

**Acute Toxicity Estimate (ATE mix):**

ATE mix		Ingredient(s) of unknown toxicity
Oral	>2000 mg/kg (Calculation method)	0 %
Dermal	2200 mg/kg (Calculation method)	0 %
LC50 inhalation vapour	20.07 mg/L (4 h) (Calculation method)	0 %

## SECTION 12: ECOLOGICAL INFORMATION

The experimental information related to the eco-toxicological properties of the product itself is not available

Harmful to aquatic life with long lasting effects.

### 12.1 Toxicity:

**Acute toxicity:**

Identification	Concentration		Species	Genus
Reaction mass of ethylbenzene and m-xylene and p-xylene CAS: Not relevant	LC50	>10 - 100 mg/L (96 h)		Fish
	EC50	>10 - 100 mg/L (48 h)		Crustacean
	EC50	>10 - 100 mg/L (72 h)		Algae
Diphenylmethane-2,4'-diisocyanate CAS: 5873-54-1	LC50	1000 mg/L (96 h)	Brachydanio rerio	Fish
	EC50	129.7 mg/L (24 h)	Daphnia magna	Crustacean
	EC50	Not relevant		

**Chronic toxicity:**

Identification	Concentration		Species	Genus
Reaction mass of ethylbenzene and m-xylene and p-xylene CAS: Not relevant	NOEC	1.3 mg/L	Oncorhynchus mykiss	Fish
	NOEC	1.17 mg/L	Ceriodaphnia dubia	Crustacean
Diphenylmethane-2,4'-diisocyanate CAS: 5873-54-1	NOEC	Not relevant		
	NOEC	10 mg/L	Daphnia magna	Crustacean

### 12.2 Persistence and degradability:

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**SECTION 12: ECOLOGICAL INFORMATION (continued)**

**Substance-specific information:**

Identification	Degradability		Biodegradability	
	Reaction mass of ethylbenzene and m-xylene and p-xylene CAS: Not relevant EC: 905-562-9	BOD5	Not relevant	Concentration
	COD	Not relevant	Period	28 days
	BOD5/COD	Not relevant	% Biodegradable	88 %

**12.3 Bioaccumulative potential:**

**Substance-specific information:**

Identification	Bioaccumulation potential	
	Reaction mass of ethylbenzene and m-xylene and p-xylene CAS: Not relevant EC: 905-562-9	BCF
	Pow Log	2.77
	Potential	Low

**12.4 Mobility in soil:**

Identification	Absorption/desorption		Volatility	
	Reaction mass of ethylbenzene and m-xylene and p-xylene CAS: Not relevant	Koc	202	Henry
	Conclusion	Moderate	Dry soil	Yes
	Surface tension	Not relevant	Moist soil	Yes

**12.5 Results of PBT and vPvB assessment:**

Product does not meet PBT/vPvB criteria

**12.6 Other adverse effects:**

Not described

**SECTION 13: DISPOSAL CONSIDERATIONS**

**13.1 Waste treatment methods:**

Code	Description	Waste class
08 04 09*	waste adhesives and sealants containing organic solvents or other hazardous substances	Hazardous

**Type of waste:**

HP14 Ecotoxic, HP3 Flammable, HP5 Specific Target Organ Toxicity (STOT)/Aspiration Toxicity, HP6 Acute Toxicity, HP7 Carcinogenic, HP4 Irritant — skin irritation and eye damage

**Waste management (disposal and evaluation):**

Consult the authorized waste service manager on the assessment and disposal operations in accordance The Waste (England & Wales) Regulations 2011, 2011 No. 988. As under 15 01 of the code and in case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-hazardous residue.

Waste should not be disposed of to drains. See paragraph 6.2.

**Regulations related to waste management:**

In accordance with Annex II of UK REACH the provisions related to waste management are stated:

UK legislation: The Waste (England & Wales) Regulations 2011.

**SECTION 14: TRANSPORT INFORMATION**

**Transport of dangerous goods by land:**

With regard to ADR 2023 and RID 2023:

**SECTION 14: TRANSPORT INFORMATION (continued)**



- 14.1 UN number:** UN1993  
**14.2 UN proper shipping name:** FLAMMABLE LIQUID, N.O.S. (Reaction mass of ethylbenzene and m-xylene and p-xylene)  
**14.3 Transport hazard class(es):** 3  
**Labels:** 3  
**14.4 Packing group:** I  
**14.5 Environmental hazards:** No  
**14.6 Special precautions for user**  
 Tunnel restriction code: D/E  
 Physico-Chemical properties: see section 9  
**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code:** Not relevant

**Transport of dangerous goods by sea:**

With regard to IMDG 41-22:



- 14.1 UN number:** UN1993  
**14.2 UN proper shipping name:** FLAMMABLE LIQUID, N.O.S. (Reaction mass of ethylbenzene and m-xylene and p-xylene)  
**14.3 Transport hazard class(es):** 3  
**Labels:** 3  
**14.4 Packing group:** I  
**14.5 Marine pollutant:** No  
**14.6 Special precautions for user**  
 Special regulations: 274  
 EmS Codes: F-E, S-E  
 Physico-Chemical properties: see section 9  
 Limited quantities: 0  
 Segregation group: Not relevant  
**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code:** Not relevant

**Transport of dangerous goods by air:**

With regard to IATA/ICAO 2025:



- 14.1 UN number:** UN1993  
**14.2 UN proper shipping name:** FLAMMABLE LIQUID, N.O.S. (Reaction mass of ethylbenzene and m-xylene and p-xylene)  
**14.3 Transport hazard class(es):** 3  
**Labels:** 3  
**14.4 Packing group:** I  
**14.5 Environmental hazards:** No  
**14.6 Special precautions for user**  
 Physico-Chemical properties: see section 9  
**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code:** Not relevant

**SECTION 15: REGULATORY INFORMATION**

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

- Substances listed in UK candidate list of substances of very high concern (SVHCs): Not relevant
- Substances listed in UK REACH Authorisation List (Annex 14): Not relevant

**The Control of Major Accident Hazards Regulations 2015:**

Section	Description	Lower-tier requirements	Upper-tier requirements
P5c	FLAMMABLE LIQUIDS	5000	50000

**Restrictions to commercialisation and the use of certain dangerous substances and mixtures (Annex XVII UK REACH, etc ....):**

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**SECTION 15: REGULATORY INFORMATION (continued)**

Contains more than 0.1 % of Diphenylmethane-2,4'-diisocyanate, 4,4'-methylenediphenyl diisocyanate, isomers and homologues by weight. This product may not be distributed in its present form for first-time sale to the general public after 27th December 2010 unless the packaging contains protective gloves meeting the provisions of Regulation (EU) 2016/425.

Shall not be used in:

- ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
- tricks and jokes,
- games for one or more participants, or any article intended to be used as such, even with ornamental aspects.

Occupational exposure to respirable crystalline silica must be controlled pursuant to Directive (EU) 2019/130.

Contains more than 0.1 % of diisocyanates by weight. 1. Shall not be used as substances on their own, as a constituent in other substances or in mixtures for industrial and professional use(s) after 24 August 2023, unless:

(a) the concentration of diisocyanates individually and in combination is less than 0,1 % by weight, or (b) the employer or self-employed ensures that industrial or professional user(s) have successfully completed training on the safe use of diisocyanates prior to the use of the substance(s) or mixture(s).

2. Shall not be placed on the market as substances on their own, as a constituent in other substances or in mixtures for industrial and professional use(s) after 24 February 2022, unless:

(a) the concentration of diisocyanates individually and in combination is less than 0,1 % by weight, or (b) the supplier ensures that the recipient of the substance(s) or mixture(s) is provided with information on the requirements referred to in point (b) of paragraph 1 and the following statement is placed on the packaging, in a manner that is visibly distinct from the rest of the label information: "As from 24 August 2023 adequate training is required before industrial or professional use".

3. For the purpose of this entry "industrial and professional user(s)" means any worker or self-employed worker handling diisocyanates on their own, as a constituent in other substances or in mixtures for industrial and professional use(s) or supervising these tasks.

4. The training referred to in point (b) of paragraph 1 shall include the instructions for the control of dermal and inhalation exposure to diisocyanates at the workplace without prejudice to any national occupational exposure limit value or other appropriate risk management measures at national level. Such training shall be conducted by an expert on occupational safety and health with competence acquired by relevant vocational training. That training shall cover as a minimum:

(a) the training elements in point (a) of paragraph 5 for all industrial and professional use(s).

(b) the training elements in points (a) and (b) of paragraph 5 for the following uses:

- handling open mixtures at ambient temperature (including foam tunnels)
- spraying in a ventilated booth
- application by roller
- application by brush
- application by dipping and pouring
- mechanical post treatment (e.g. cutting) of not fully cured articles which are not warm anymore
- cleaning and waste
- any other uses with similar exposure through the dermal and/or inhalation route

(c) the training elements in points (a), (b) and (c) of paragraph 5 for the following uses:

- handling incompletely cured articles (e.g. freshly cured, still warm)
- foundry applications
- maintenance and repair that needs access to equipment
- open handling of warm or hot formulations (> 45 °C)
- spraying in open air, with limited or only natural ventilation (includes large industry working halls) and spraying with high energy (e.g. foams, elastomers)
- and any other uses with similar exposure through the dermal and/or inhalation route.

5. Training elements:

(a) general training, including on-line training, on:

- chemistry of diisocyanates
- toxicity hazards (including acute toxicity)
- exposure to diisocyanates
- occupational exposure limit values
- how sensitisation can develop
- odour as indication of hazard
- importance of volatility for risk
- viscosity, temperature, and molecular weight of diisocyanates
- personal hygiene
- personal protective equipment needed, including practical instructions for its correct use and its limitations
- risk of dermal contact and inhalation exposure
- risk in relation to application process used
- skin and inhalation protection scheme
- ventilation
- cleaning, leakages, maintenance
- discarding empty packaging
- protection of bystanders
- identification of critical handling stages
- specific national code systems (if applicable)
- behaviour-based safety

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## SECTION 15: REGULATORY INFORMATION (continued)

- certification or documented proof that training has been successfully completed
- (b) intermediate level training, including on-line training, on:
  - additional behaviour-based aspects
  - maintenance
  - management of change
  - evaluation of existing safety instructions
  - risk in relation to application process used
- certification or documented proof that training has been successfully completed
- (c) advanced training, including on-line training, on:
  - any additional certification needed for the specific uses covered
  - spraying outside a spraying booth
  - open handling of hot or warm formulations (> 45 °C)
- certification or documented proof that training has been successfully completed

6. The training shall comply with the provisions set by the Member State in which the industrial or professional user(s) operate. Member States may implement or continue to apply their own national requirements for the use of the substance(s) or mixture(s), as long as the minimum requirements set out in paragraphs 4 and 5 are met.

7. The supplier referred to in point (b) of paragraph 2 shall ensure that the recipient is provided with training material and courses pursuant to paragraphs 4 and 5 in the official language(s) of the Member State(s) where the substance(s) or mixture(s) are supplied. The training shall take into consideration the specificity of the products supplied, including composition, packaging, and design.

8. The employer or self-employed shall document the successful completion of the training referred to in paragraphs 4 and 5. The training shall be renewed at least every five years.

9. Member States shall include in their reports pursuant to Article 117(1) the following information:

- (a) any established training requirements and other risk management measures related to the industrial and professional uses of diisocyanates foreseen in national law
- (b) the number of cases of reported and recognised occupational asthma and occupational respiratory and dermal diseases in relation to diisocyanates
- (c) national exposure limits for diisocyanates, if there are any
- (d) information about enforcement activities related to this restriction.

10. This restriction shall apply without prejudice to other Union legislation on the protection of safety and health of workers at the workplace.

### Specific provisions in terms of protecting people or the environment:

It is recommended to use the information included in this safety data sheet as a basis for conducting workplace-specific risk assessments in order to establish the necessary risk prevention measures for the handling, use, storage and disposal of this product.

### Other legislation:

The REACH etc. (Amendment etc.) (EU Exit) Regulations 2020.

The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2020.

Control of Substances Hazardous to Health Regulations 2002 (as amended)

EH40/2005 Workplace exposure limits.

## SECTION 16: OTHER INFORMATION

### Legislation related to safety data sheets:

This safety data sheet has been designed in accordance with ANNEX II-The REACH etc. (Amendment etc.) (EU Exit) Regulations 2020.

### Texts of the legislative phrases mentioned in section 2:

H315: Causes skin irritation.

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

H317: May cause an allergic skin reaction.

H351: Suspected of causing cancer.

H335: May cause respiratory irritation.

H412: Harmful to aquatic life with long lasting effects.

H373: May cause damage to organs through prolonged or repeated exposure (Oral). Organs affected: All gross lesions and masses.

H226: Flammable liquid and vapour.

H319: Causes serious eye irritation.

### Texts of the legislative phrases mentioned in section 3:

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3

### GB CLP Regulation (UK S.I. 2019/720 and UK S.I. 2020/1567):

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**SECTION 16: OTHER INFORMATION (continued)**

Acute Tox. 4: H312+H332 - Harmful in contact with skin or if inhaled.  
Acute Tox. 4: H332 - Harmful if inhaled.  
Aquatic Chronic 3: H412 - Harmful to aquatic life with long lasting effects.  
Asp. Tox. 1: H304 - May be fatal if swallowed and enters airways.  
Carc. 2: H351 - Suspected of causing cancer.  
Eye Irrit. 2: H319 - Causes serious eye irritation.  
Flam. Liq. 3: H226 - Flammable liquid and vapour.  
Resp. Sens. 1: H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
Skin Irrit. 2: H315 - Causes skin irritation.  
Skin Sens. 1: H317 - May cause an allergic skin reaction.  
STOT RE 2: H373 - May cause damage to organs through prolonged or repeated exposure (Inhalation).  
STOT RE 2: H373 - May cause damage to organs through prolonged or repeated exposure (Oral).  
STOT RE 2: H373 - May cause damage to organs through prolonged or repeated exposure.  
STOT SE 3: H335 - May cause respiratory irritation.

**Classification procedure:**

Skin Irrit. 2: Calculation method  
Resp. Sens. 1: Calculation method  
Skin Sens. 1: Calculation method  
Carc. 2: Calculation method  
STOT SE 3: Calculation method  
Aquatic Chronic 3: Calculation method  
STOT RE 2: Calculation method  
Flam. Liq. 3: Calculation method (2.6.4.3)  
Eye Irrit. 2: Calculation method

**Advice related to training:**

Training is recommended in order to prevent industrial risks for staff using this product and to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

**Principal bibliographical sources:**

<http://echa.europa.eu>  
<http://eur-lex.europa.eu>

**Abbreviations and acronyms:**

ADR: European agreement concerning the international carriage of dangerous goods by road  
IMDG: International maritime dangerous goods code  
IATA: International Air Transport Association  
ICAO: International Civil Aviation Organisation  
COD: Chemical Oxygen Demand  
BOD5: 5day biochemical oxygen demand  
BCF: Bioconcentration factor  
LD50: Lethal Dose 50  
LC50: Lethal Concentration 50  
EC50: Effective concentration 50  
LogPOW: Octanolwater partition coefficient  
Koc: Partition coefficient of organic carbon  
UFI: unique formula identifier  
IARC: International Agency for Research on Cancer