MATERIAL SAFETY DATA SHEET

EuroFoam 0117 (Soft Foam) Part A

1 IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND COMPANY / UNDERTAKING

PRODUCT NAME	;	EuroFoam 0117 (Soft Foam) Part A
ADDRESS/TEL. No	;	Europol 9 Birchills Trading Estate, Emery Road Brislington Bristol BS4 5PF
PHONE		+44 (0) 117 9715 500
E MAIL		sales@europoluk.com
WEBSITE		www.europoluk.com

2 COMPOSITION/INFORMATION ON INGREDIENTS

2.1 CLASSIFICATION OF THE SUBSTANCE

MAIN HAZARDS ; NO SIGNIFICANT HAZARD

2.2 LABEL ELEMENTS

RISK PHRASES ; NO SIGNIFICANT HAZARD

2.3 OTHER HAZARDS ; THIS PRODUCT IS CLASSIFIED AS NON HAZARDOUS

3 COMPOSITION/ INFORMATION ON INGREDIENTS

3.1A DIAZOBICYCLO OCTANE; CONTENT (W/W); 0.1.> 1%.
CAS NUMBER : 280-57-9, : EC NUMBER : 205-999-1
REACH registration number: 01-2119980944-22
H302 ; Acute tox. 4 (oral); harmful if swallowed.
H314 : Skin irritation, causes severe burns and skin damage.
H319 : causes severe eye irritation.
H412 : Harmful to aquatic life.

HAZARD SYMBOL T :

3.1B Ethanediol; ethylene glycol Content (W/W): >= 1 % - < 10 %
CAS Number: 107-21-1 : EC-Number: 203-473-3
REACH registration number: 01- 2119456816-28
H302 ;Acute Tox. 4 (oral) , Harmful if swallowed
H373 STOT RE , 2 (Kidney) , may cause damage to Organs.

HAZARD SYMBOL Xn :

4 FIRST AID MEASURES

4.1 DESCRIPTION OF THE FIRST AID MEASURES

INHALATION : REMOVE PATIENT FROM EXPOSURE
EYE CONTACT : IRRIGATE WITH EYEWASH SOLUTION OR CLEAN WATER FOR 10 MINS , HOLD LIDS OPEN
SKIN CONTACT : WASH IMMEDIATELY WITH SOAP AND WATER, REMOVE CONTAMINATED CLOTHING
INGESTION : DO NOT INDUCE VOMITING

4.2 IMPORTANT SYMPTOMS AND EFFECTS, ACCUTE AND DELAYED

TO THE CENTRAL INHALATION : MAY CAUSE TIGHTNESS OF THE CHEST AND IRRITATION OF RESPIRATORY SYSTEM
EYE CONTACT ; MAY CAUSE IRRITATION TO THE EYES
SKIN CONTACT ; MAY CAUSE IRRITATION TO THE SKIN
INGESTION : HARMFUL IF SWALLOWED. INGESTION MAY CAUSE NAUSEA AND VOMITING

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION NEEDED

INHALATION ; SEEK MEDICAL ATTENTION
EYE CONTACT; SEEK MEDICAL ATTENTION IF IRRITATION OR SYMPTOMS PERSIST
SKIN CONTACT; SEEK MEDICAL ATTENTION IF IRRITATION OR SYMPTOMS PERSIST
INGESTION ; SEEK MEDICAL ATTENTION

5 FIRE FIGHTING MEASURES

NOT CLASSED AS FLAMABLE

5.1 : EXTINGUISHING MEDIA;
USE FOAM, DRY POWDER, CARBON DIOXIDE
5.2 : SPECIAL HAZARDS ARISING FROM SUBSTANCE OR MIXTURE
BURNING PRODUCES IRRITATING , TOXIC FUMES

5.3 : ADVICE FOR FIREFIGHTERS
WEAR SUITABLE RESPIRATORY EQUIPMENT WHEN NECESSARY

6 ACCIDENTAL RELEASE MEASURES

ENSURE SUITABLE PERSONAL PROTECTION DURING REMOVAL OF SPILLAGES.
ABSORB SPILLAGES INTO SAND, EARTH OR ANY SUITABLE ABSORBANT MATERIAL.
TRANSFER TO A CONTAINER FOR DISPOSAL.
WASH THE SPILLAGE AREA CLEAN WITH WATER AND A DETERGENT.

7 HANDLING AND STORAGE

7.1: PRECAUTIONS FOR SAFE HANDLING
AVOID CONTACT WITH EYES AND SKIN. ENSURE ADEQUATE VENTILATION OF THE WORKING AREA. ADOPT BEST PRACTICE MANUAL HANDLING.

7.2 : CONDITIONS FOR SAFE STORAGE
KEEP CONTAINERS SEALED WHEN NOT IN USE
KEEP IN A COOL DRY WELL VENTILATED AREA

7.3 SPECIFIC END USE
COMPONENT OF A POLYURETHANE TWO PART SYSTEM

8 EXPOSURE CONTROLS /PERSONAL PROTECTION

8.1 OCCUPATIONAL EXPOSURE OF COMPOUNDED POLYOL BLEND ; NONE ASSIGNED

8.2 EXPOSURE CONTROLS

8.2.1 ENGINEERING CONTROLS
ENSURE ADEQUATE VENTILATION OF THE WORKING AREA

8.2.2 INDIVIDUAL PROTECTION MEASURES
WEAR PROTECTIVE CLOTHING

8.2.3 EYE/FACE PROTECTION
APPROVED SAFETY GOGGLES

8.2.4 SKIN PROTECTION
CHEMICAL RESISTANT GLOVES

8.2.5 RESPIRATORY PROTECTION
WEAR SUITABLE RESPIRATORY PROTECTION WHEN NECESSARY

9 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE ; LIQUID
COLOUR ; TRANSLUCENT
ODOUR ; SLIGHTLY AMONICAL
BOILING POINT ; > 100C
FLASH POINT ; 65C
VAPOUR PRESSURE ; NO DATA AVAILABLE
AUTOIGNITION TEMP ; NO DATA AVAILABLE
DENSITY ; 1.08 AT 20C
VISCOSITY : 750MpAS-1

10 STABILITY AND REACTIVITY

HAZARDOUS DECOMPOSITION PRODUCTS : NONE AT AMBIENT TEMPERATURE

10 TOXICOLOGICAL INFORMATION

THIS HEALTH HAZARD ASSESMENT IS BASED ON A CONSIDERATION OF THE COMPOSITION OF THIS PRODUCT.

INHALATION : UNLIKELY TO BE HAZARDOUS DUE TO THE LOW VAPOUR PRESSURE OF THE MATERIAL AT AMBIENT TEMPERATURES

SKIN CONTACT : SLIGHT/ MILD IRRITANT
MAY CAUSE SENSITISATION BY SKIN CONTACT

EYE CONTACT : SLIGHT/MILD IRRITANT

INGESTION : LOW ORAL TOXICITY

11 ECOLOGICAL INFORMATION

NO INFORMATION AVAILABLE

12 DISPOSAL CONSIDERATIONS

THE GENERATION OF WASTE SHOULD BE AVOIDED OR MINIMISED WHEREVER POSSIBLE.

DISPOSAL SHOULD BE IN ACCORDANCE WITH LOCAL AUTHORITY OR NATIONAL LEGISLATION. BURY ON AN AUTHORISED LANDFILL SITE OR INCINERATE UNDER APPROVED CONTROLLED CONDITIONS, USING INCINERATORS SUITABLE FOR THE DISPOSAL OF NOXIOUS CHEMICAL WASTE.

13 TRANSPORT INFORMATION

14 REGULATORY INFORMANTION

EEC CLASSIFICATION : NOT CLASSIFIED

HAZARD SYMBOL : NONE CLASSIFIED

RISK PHRASES : NONE CLASSIFIED

SAFETY PHRASES : NONE CLASSIFIED

15 OTHER INFORMATION

THIS DATA SHEET WAS PREPARED IN ACCORDANCE WITH REGULATION 1272/2008/EC

EuroFoam 0117 (Soft Foam) Part B

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	15.05.2018	400001000114	Date of first issue: 15.05.2018

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

1.1 Product identifier

Trade name : EuroFoam 0117 (Soft Foam) Part B

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

Use of the Substance/Mixture : Component of a Polyurethane System.

1.3 Details of the supplier of the safety data sheet

Company : EUROPOL
Address 9 Birchills Trading Estate Emery Road
Brislington
Bristol
BS4 5PF
UNITED KINGDOM

Telephone +44 (117) 971 5500
Telefax

E-mail address of person responsible for the SDS : sales@europoluk.com

1.4 Emergency telephone number

Emergency telephone number : +44 (0) 117 9715500 (during office hours only

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4	H332: Harmful if inhaled.
Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Respiratory sensitisation, Category 1	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Carcinogenicity, Category 2	H351: Suspected of causing cancer.

Specific target organ toxicity - single exposure, Category 3, Respiratory system	H335: May cause respiratory irritation.
Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : Danger

Hazard statements :

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.

Precautionary statements :

Prevention:

P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P285	In case of inadequate ventilation wear respiratory protection.

Response:

P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P309 + P311	IF exposed or if you feel unwell: Call a POISON CENTER or doctor/ physician.

Disposal:

P501	Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous components which must be listed on the label:

4,4'-Methylenediphenyl diisocyanate

Isocyanic acid, polymethylenepolyphenylene ester

Methyloxirane, polymer with oxirane, ether with 1,2,3-propanetriol, polymer with 1,1'-methylenebis[isocyanatobenzene]

Methyloxirane, polymer with oxirane, ether with oxybis(propanol), polymer with 1,1'-methylenebis(isocyanatobenzene)

Additional Labelling:

EUH204 Contains isocyanates. May produce an allergic reaction.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
4,4'-Methylenediphenyl diisocyanate	101-68-8 202-966-0 615-005-00-9 01-2119457014-47	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	>= 30 - < 50
Isocyanic acid, polymethylenepolyphenylene ester	9016-87-9 Polymer	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	>= 30 - < 50
Methyloxirane, polymer with oxirane, ether with 1,2,3-propanetriol, polymer with 1,1'-methylenebis[isocyanatobenzene]	112898-48-3 Polymer	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 SE 3; H335 STOT RE 2; H373	>= 10 - < 20

Methyloxirane, polymer with oxirane, ether with oxybis(propanol), polymer with 1,1'-methylenebis(isocyanatobenzene)	157937-75-2 Polymer	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 SE 3; H335 STOT RE 2; H373	>= 10 - < 20
methylenediphenyl diisocyanate	Not Assigned - 01-2119457015-45	Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Resp. Sens. 1; H334 Skin Sens. 1; H317 Carc. 2; H351 STOT SE 3; H335 STOT RE 2; H373	>= 1 - < 5

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.
Do not leave the victim unattended.
Get medical attention immediately if symptoms occur.
Show this safety data sheet to the doctor in attendance.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.
It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
If potential for exposure exists refer to Section 8 for specific personal protective equipment.
First Aid responders should pay attention to self-protection and use the recommended protective clothing

If inhaled : If breathed in, move person into fresh air.
Call a physician or poison control centre immediately.
Keep patient warm and at rest.
Keep respiratory tract clear.
If breathing is difficult, give oxygen.
If breathing is irregular or stopped, administer artificial respiration.
If unconscious, place in recovery position and seek medical advice.
Consult a physician immediately if symptoms such as shortness of breath or asthma are observed.
A hyper-reactive response to even minimal concentrations of diisocyanates may develop in sensitised persons.
The exposed person may need to be kept under medical surveillance for 48 hours.
LC50 (rat) : ca. 490 mg/m³ (4 hours) : using experimentally

produced respirable aerosol having aerodynamic diameter <5microns.

In case of skin contact : In case of contact, immediately flush skin with soap and plenty of water.
Take off contaminated clothing and shoes immediately.
Wash contaminated clothing before reuse.
Thoroughly clean shoes before reuse.
Call a physician if irritation develops or persists.
An MDI study has demonstrated that a polyglycol-based skin cleanser (such as D-TamTM, PEG-400) or corn oil may be more effective than soap and water.

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
If easy to do, remove contact lens, if worn.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Gently wipe or rinse the inside of the mouth with water.
DO NOT induce vomiting unless directed to do so by a physician or poison control center.
Keep respiratory tract clear.
Keep at rest.
If a person vomits when lying on his back, place him in the recovery position.
Never give anything by mouth to an unconscious person.
Take victim immediately to hospital.
If symptoms persist, call a physician.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Severe allergic skin reactions, bronchiospasm and anaphylactic shock

Risks : This product is a respiratory irritant and potential respiratory sensitiser: repeated inhalation of vapour or aerosol at levels above the occupational exposure limit could cause respiratory sensitisation.
Symptoms may include irritation to the eyes, nose, throat and lungs, possibly combined with dryness of the throat, tightness of chest and difficulty in breathing.

The onset of the respiratory symptoms may be delayed for several hours after exposure.
A hyper-reactive response to even minimal concentrations of MDI may develop in sensitised persons.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Symptomatic and supportive therapy as needed. Following severe exposure medical follow-up should be monitored for at least 48 hours.

The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.

SECTION 5: Firefighting measures

5.1 Extinguishing media

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

Unsuitable extinguishing media : Water may be used if no other available and then in copious quantities. Reaction between water and hot isocyanate may be vigorous.

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.
The pressure in sealed containers can increase under the influence of heat.
Exposure to decomposition products may be a hazard to health.

Hazardous combustion products : Combustion products may include: carbon monoxide, carbon dioxide, nitrogen oxides, hydrocarbons and HCN. In the event of extreme heat (>500 degrees C), aniline is suspected of being formed.

5.3 Advice for firefighters

Special protective equipment for firefighters : Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

Specific extinguishing methods : Cool containers/tanks with water spray.

Further information : Standard procedure for chemical fires.Due to reaction with water producing CO2-gas, a hazardous build-up of pressure could result if contaminated containers are re-sealed.Collect contaminated fire extinguishing water separately. This must not be discharged into drains.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 : Immediately evacuate personnel to safe areas.
Use personal protective equipment.
If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials.
Ensure adequate ventilation.
Keep people away from and upwind of spill/leak.
Only qualified personnel equipped with suitable protective equipment may intervene.
For additional precautions and advice on safe handling, see section 7.
Never return spills in original containers for re-use.
Make sure that there is a sufficient amount of neutralizing/ absorbent material near the storage area.
The danger areas must be delimited and identified using relevant warning and safety signs.
Treat recovered material as described in the section "Disposal considerations".
For disposal considerations see section 13.

6.2 Environmental precautions

Environmental precautions : Do not allow uncontrolled discharge of product into the environment.
Do not allow material to contaminate ground water system.
Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
Local authorities should be advised if significant spillages cannot be contained.
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 : Clean-up methods - small spillage
Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).
Clean contaminated surface thoroughly.
Sweep up or vacuum up spillage and collect in suitable container for disposal.
Neutralise small spillages with decontaminant.
The compositions of liquid decontaminants are given in Section 16.
Remove and dispose of residues.
Clean-up methods - large spillage
If the product is in its solid form:

Spilled MDI flakes should be picked up carefully.
The area should be vacuum cleaned to remove remaining dust particles completely.
If the product is in its liquid form:
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Leave to react for at least 30 minutes.
Shovel into open-top drums for further decontamination.
Wash the spillage area with water.
Test atmosphere for MDI vapour.
Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For personal protection see section 8., For disposal considerations see section 13., The compositions of liquid decontaminants are given in Section 16.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical measures	:	Ensure that eyewash stations and safety showers are close to the workstation location.
Local/Total ventilation	:	Use only with adequate ventilation.
Advice on safe handling	:	For personal protection see section 8. Avoid formation of aerosol. Do not breathe vapours or spray mist. Do not breathe vapours/dust. Do not swallow. Do not get in eyes or mouth or on skin. Do not get on skin or clothing. Avoid exposure - obtain special instructions before use. Smoking, eating and drinking should be prohibited in the application area. Provide sufficient air exchange and/or exhaust in work rooms. Keep container closed when not in use. Open drum carefully as content may be under pressure. Dispose of rinse water in accordance with local and national regulations. 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.
Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Wash face, hands and any exposed skin thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. When using do not eat, drink or smoke. Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks

and immediately after handling the product. Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labelled containers. Observe label precautions. Protect from moisture. Electrical installations / working materials must comply with the technological safety standards. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage : Acids
Amines
Bases
Metals
water

Further information on storage stability : 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
4,4'-Methylenediphenyl diisocyanate	101-68-8	TWA	0.02 mg/m3 (NCO)	GB EH40
Further information	Substances that can cause occupational asthma (also known as asthmagens and respiratory sensitisers) can induce a state of specific airway hyper-responsiveness via an immunological, irritant or other mechanism. Once the airways have become hyper-responsive, further exposure to the substance, sometimes even to tiny quantities, may cause respiratory symptoms. These symptoms can range in severity from a runny nose to asthma. Not all workers who are exposed to a sensitiser will become hyper-responsive and it is impossible to identify in advance those who are likely to become hyper-responsive. 54 Substances that can cause occupational asthma should be distinguished from substances which may trigger the symptoms of asthma in people with pre-existing airway hyper-responsiveness, but which do not include the disease themselves. The latter substances are not classified asthmagens or respiratory sensitisers., Wherever it is reasonably practicable, exposure to substances that can cause occupational asthma should be prevented. Where this is not possible, the primary aim is to apply adequate			

	standards of control to prevent workers from becoming hyper-responsive. For substances that can cause occupational asthma, COSHH requires that exposure be reduced as low as is reasonably practicable. Activities giving rise to short-term peak concentrations should receive particular attention when risk management is being considered. Health surveillance is appropriate for all employees exposed or liable to be exposed to a substance which may cause occupational asthma and there should be appropriate consultation with an occupational health professional over the degree of risk and level of surveillance., Capable of causing occupational asthma. The identified substances are those which: - are assigned the risk phrase 'R42: May cause sensitisation by inhalation'; or 'R42/43: May cause sensitisation by inhalation and skin contact' or - are listed in section C of HSE publication 'Asthmagen? Critical assessments of the evidence for agents implicated in occupational asthma' as updated from time to time, or any other substance which the risk assessment has shown to be a potential cause of occupational asthma., The 'Sen' notation in the list of WELs has been assigned only to those substances which may cause occupational asthma.			
		STEL	0.07 mg/m3 (NCO)	GB EH40
Further information	Substances that can cause occupational asthma (also known as asthmagens and respiratory sensitisers) can induce a state of specific airway hyper-responsiveness via an immunological, irritant or other mechanism. Once the airways have become hyper-responsive, further exposure to the substance, sometimes even to tiny quantities, may cause respiratory symptoms. These symptoms can range in severity from a runny nose to asthma. Not all workers who are exposed to a sensitiser will become hyper-responsive and it is impossible to identify in advance those who are likely to become hyper-responsive. 54 Substances that can cause occupational asthma should be distinguished from substances which may trigger the symptoms of asthma in people with pre-existing airway hyper-responsiveness, but which do not include the disease themselves. The latter substances are not classified asthmagens or respiratory sensitisers., Wherever it is reasonably practicable, exposure to substances that can cause occupational asthma should be prevented. Where this is not possible, the primary aim is to apply adequate standards of control to prevent workers from becoming hyper-responsive. For substances that can cause occupational asthma, COSHH requires that exposure be reduced as low as is reasonably practicable. Activities giving rise to short-term peak concentrations should receive particular attention when risk management is being considered. Health surveillance is appropriate for all employees exposed or liable to be exposed to a substance which may cause occupational asthma and there should be appropriate consultation with an occupational health professional over the degree of risk and level of surveillance., Capable of causing occupational asthma. The identified substances are those which: - are assigned the risk phrase 'R42: May cause sensitisation by inhalation'; or 'R42/43: May cause sensitisation by inhalation and skin contact' or - are listed in section C of HSE publication 'Asthmagen? Critical assessments of the evidence for agents implicated in occupational asthma' as updated from time to time, or any other substance which the risk assessment has shown to be a potential cause of occupational asthma., The 'Sen' notation in the list of WELs has been assigned only to those substances which may cause occupational asthma.			
Isocyanic acid, polymethylenepoly phenylene ester	9016-87-9	TWA	0.02 mg/m3 (as -NCO)	GB EH40

Further information	Substances that can cause occupational asthma (also known as asthmagens and respiratory sensitisers) can induce a state of specific airway hyper-responsiveness via an immunological, irritant or other mechanism. Once the airways have become hyper-responsive, further exposure to the substance, sometimes even to tiny quantities, may cause respiratory symptoms. These symptoms can range in severity from a runny nose to asthma. Not all workers who are exposed to a sensitiser will become hyper-responsive and it is impossible to identify in advance those who are likely to become hyper-responsive. 54 Substances that can cause occupational asthma should be distinguished from substances which may trigger the symptoms of asthma in people with pre-existing airway hyper-responsiveness, but which do not include the disease themselves. The latter substances are not classified asthmagens or respiratory sensitisers., Wherever it is reasonably practicable, exposure to substances that can cause occupational asthma should be prevented. Where this is not possible, the primary aim is to apply adequate standards of control to prevent workers from becoming hyper-responsive. For substances that can cause occupational asthma, COSHH requires that exposure be reduced as low as is reasonably practicable. Activities giving rise to short-term peak concentrations should receive particular attention when risk management is being considered. Health surveillance is appropriate for all employees exposed or liable to be exposed to a substance which may cause occupational asthma and there should be appropriate consultation with an occupational health professional over the degree of risk and level of surveillance., Capable of causing occupational asthma. The identified substances are those which: - are assigned the risk phrase 'R42: May cause sensitisation by inhalation'; or 'R42/43: May cause sensitisation by inhalation and skin contact' or - are listed in section C of HSE publication 'Asthmagen? Critical assessments of the evidence for agents implicated in occupational asthma' as updated from time to time, or any other substance which the risk assessment has shown to be a potential cause of occupational asthma., The 'Sen' notation in the list of WELs has been assigned only to those substances which may cause occupational asthma.			
		STEL	0.07 mg/m3 (as -NCO)	GB EH40
Further information	Substances that can cause occupational asthma (also known as asthmagens and respiratory sensitisers) can induce a state of specific airway hyper-responsiveness via an immunological, irritant or other mechanism. Once the airways have become hyper-responsive, further exposure to the substance, sometimes even to tiny quantities, may cause respiratory symptoms. These symptoms can range in severity from a runny nose to asthma. Not all workers who are exposed to a sensitiser will become hyper-responsive and it is impossible to identify in advance those who are likely to become hyper-responsive. 54 Substances that can cause occupational asthma should be distinguished from substances which may trigger the symptoms of asthma in people with pre-existing airway hyper-responsiveness, but which do not include the disease themselves. The latter substances are not classified asthmagens or respiratory sensitisers., Wherever it is reasonably practicable, exposure to substances that can cause occupational asthma should be prevented. Where this is not possible, the primary aim is to apply adequate standards of control to prevent workers from becoming hyper-responsive. For substances that can cause occupational asthma, COSHH requires that exposure be reduced as low as is reasonably practicable. Activities giving rise to short-term peak concentrations should receive particular attention when risk management is being considered. Health surveillance is appropriate for all			

	employees exposed or liable to be exposed to a substance which may cause occupational asthma and there should be appropriate consultation with an occupational health professional over the degree of risk and level of surveillance., Capable of causing occupational asthma. The identified substances are those which: - are assigned the risk phrase 'R42: May cause sensitisation by inhalation'; or 'R42/43: May cause sensitisation by inhalation and skin contact' or - are listed in section C of HSE publication 'Asthmagen? Critical assessments of the evidence for agents implicated in occupational asthma' as updated from time to time, or any other substance which the risk assessment has shown to be a potential cause of occupational asthma., The 'Sen' notation in the list of WELs has been assigned only to those substances which may cause occupational asthma.			
		TWA	0.02 mg/m3 (NCO)	GB EH40
Further information	Substances that can cause occupational asthma (also known as asthmagens and respiratory sensitisers) can induce a state of specific airway hyper-responsiveness via an immunological, irritant or other mechanism. Once the airways have become hyper-responsive, further exposure to the substance, sometimes even to tiny quantities, may cause respiratory symptoms. These symptoms can range in severity from a runny nose to asthma. Not all workers who are exposed to a sensitiser will become hyper-responsive and it is impossible to identify in advance those who are likely to become hyper-responsive. 54 Substances that can cause occupational asthma should be distinguished from substances which may trigger the symptoms of asthma in people with pre-existing airway hyper-responsiveness, but which do not include the disease themselves. The latter substances are not classified asthmagens or respiratory sensitisers., Wherever it is reasonably practicable, exposure to substances that can cause occupational asthma should be prevented. Where this is not possible, the primary aim is to apply adequate standards of control to prevent workers from becoming hyper-responsive. For substances that can cause occupational asthma, COSHH requires that exposure be reduced as low as is reasonably practicable. Activities giving rise to short-term peak concentrations should receive particular attention when risk management is being considered. Health surveillance is appropriate for all employees exposed or liable to be exposed to a substance which may cause occupational asthma and there should be appropriate consultation with an occupational health professional over the degree of risk and level of surveillance., Capable of causing occupational asthma. The identified substances are those which: - are assigned the risk phrase 'R42: May cause sensitisation by inhalation'; or 'R42/43: May cause sensitisation by inhalation and skin contact' or - are listed in section C of HSE publication 'Asthmagen? Critical assessments of the evidence for agents implicated in occupational asthma' as updated from time to time, or any other substance which the risk assessment has shown to be a potential cause of occupational asthma., The 'Sen' notation in the list of WELs has been assigned only to those substances which may cause occupational asthma.			
		STEL	0.07 mg/m3 (NCO)	GB EH40
Further information	Substances that can cause occupational asthma (also known as asthmagens and respiratory sensitisers) can induce a state of specific airway hyper-responsiveness via an immunological, irritant or other mechanism. Once the airways have become hyper-responsive, further exposure to the substance, sometimes even to tiny quantities, may cause respiratory symptoms. These symptoms can range in severity from a runny nose to asthma. Not all workers			

	who are exposed to a sensitiser will become hyper-responsive and it is impossible to identify in advance those who are likely to become hyper-responsive. 54 Substances that can cause occupational asthma should be distinguished from substances which may trigger the symptoms of asthma in people with pre-existing airway hyper-responsiveness, but which do not include the disease themselves. The latter substances are not classified asthmagens or respiratory sensitisers., Wherever it is reasonably practicable, exposure to substances that can cause occupational asthma should be prevented. Where this is not possible, the primary aim is to apply adequate standards of control to prevent workers from becoming hyper-responsive. For substances that can cause occupational asthma, COSHH requires that exposure be reduced as low as is reasonably practicable. Activities giving rise to short-term peak concentrations should receive particular attention when risk management is being considered. Health surveillance is appropriate for all employees exposed or liable to be exposed to a substance which may cause occupational asthma and there should be appropriate consultation with an occupational health professional over the degree of risk and level of surveillance., Capable of causing occupational asthma. The identified substances are those which: - are assigned the risk phrase 'R42: May cause sensitisation by inhalation'; or 'R42/43: May cause sensitisation by inhalation and skin contact' or - are listed in section C of HSE publication 'Asthmagen? Critical assessments of the evidence for agents implicated in occupational asthma' as updated from time to time, or any other substance which the risk assessment has shown to be a potential cause of occupational asthma., The 'Sen' notation in the list of WELs has been assigned only to those substances which may cause occupational asthma.			
Methylenediphenyl diisocyanate (mixed isomers)	Not Assigned	TWA	0.02 mg/m3 (NCO)	GB EH40
Further information	Substances that can cause occupational asthma (also known as asthmagens and respiratory sensitisers) can induce a state of specific airway hyper-responsiveness via an immunological, irritant or other mechanism. Once the airways have become hyper-responsive, further exposure to the substance, sometimes even to tiny quantities, may cause respiratory symptoms. These symptoms can range in severity from a runny nose to asthma. Not all workers who are exposed to a sensitiser will become hyper-responsive and it is impossible to identify in advance those who are likely to become hyper-responsive. 54 Substances that can cause occupational asthma should be distinguished from substances which may trigger the symptoms of asthma in people with pre-existing airway hyper-responsiveness, but which do not include the disease themselves. The latter substances are not classified asthmagens or respiratory sensitisers., Wherever it is reasonably practicable, exposure to substances that can cause occupational asthma should be prevented. Where this is not possible, the primary aim is to apply adequate standards of control to prevent workers from becoming hyper-responsive. For substances that can cause occupational asthma, COSHH requires that exposure be reduced as low as is reasonably practicable. Activities giving rise to short-term peak concentrations should receive particular attention when risk management is being considered. Health surveillance is appropriate for all employees exposed or liable to be exposed to a substance which may cause occupational asthma and there should be appropriate consultation with an occupational health professional over the degree of risk and level of surveillance., Capable of causing occupational asthma. The identified substances are those which: - are assigned the risk phrase 'R42: May cause			

	sensitisation by inhalation'; or 'R42/43: May cause sensitisation by inhalation and skin contact' or - are listed in section C of HSE publication 'Asthmagen? Critical assessments of the evidence for agents implicated in occupational asthma' as updated from time to time, or any other substance which the risk assessment has shown to be a potential cause of occupational asthma., The 'Sen' notation in the list of WELs has been assigned only to those substances which may cause occupational asthma.			
		STEL	0.07 mg/m3 (NCO)	GB EH40
Further information	Substances that can cause occupational asthma (also known as asthmagens and respiratory sensitisers) can induce a state of specific airway hyper-responsiveness via an immunological, irritant or other mechanism. Once the airways have become hyper-responsive, further exposure to the substance, sometimes even to tiny quantities, may cause respiratory symptoms. These symptoms can range in severity from a runny nose to asthma. Not all workers who are exposed to a sensitiser will become hyper-responsive and it is impossible to identify in advance those who are likely to become hyper-responsive. 54 Substances that can cause occupational asthma should be distinguished from substances which may trigger the symptoms of asthma in people with pre-existing airway hyper-responsiveness, but which do not include the disease themselves. The latter substances are not classified asthmagens or respiratory sensitisers., Wherever it is reasonably practicable, exposure to substances that can cause occupational asthma should be prevented. Where this is not possible, the primary aim is to apply adequate standards of control to prevent workers from becoming hyper-responsive. For substances that can cause occupational asthma, COSHH requires that exposure be reduced as low as is reasonably practicable. Activities giving rise to short-term peak concentrations should receive particular attention when risk management is being considered. Health surveillance is appropriate for all employees exposed or liable to be exposed to a substance which may cause occupational asthma and there should be appropriate consultation with an occupational health professional over the degree of risk and level of surveillance., Capable of causing occupational asthma. The identified substances are those which: - are assigned the risk phrase 'R42: May cause sensitisation by inhalation'; or 'R42/43: May cause sensitisation by inhalation and skin contact' or - are listed in section C of HSE publication 'Asthmagen? Critical assessments of the evidence for agents implicated in occupational asthma' as updated from time to time, or any other substance which the risk assessment has shown to be a potential cause of occupational asthma., The 'Sen' notation in the list of WELs has been assigned only to those substances which may cause occupational asthma.			

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
4,4'-Methylenediphenyl diisocyanate	Workers	Dermal	Systemic effects, Short-term exposure	50 mg/kg bw/day
	Workers	Inhalation	Systemic effects, Short-term exposure	0.1 mg/m3
	Workers	Dermal	Local effects, Short-term exposure	28.7 mg/kg bw/day
	Workers	Inhalation	Local effects, Short-	0.1 mg/m3

			term exposure	
	Workers	Inhalation	Long-term systemic effects	0.05 mg/m3
	Workers	Inhalation	Long-term local effects	0.05 mg/m3
	Consumers	Dermal	Systemic effects, Short-term exposure	25 mg/kg bw/day
	Consumers	Inhalation	Systemic effects, Short-term exposure	0.05 mg/m3
	Consumers	Oral	Systemic effects, Short-term exposure	20 mg/kg bw/day
	Consumers	Dermal	Local effects, Short-term exposure	17.2 mg/cm2
	Consumers	Inhalation	Local effects, Short-term exposure	0.05 mg/m3
	Consumers	Inhalation	Long-term systemic effects	0.025 mg/m3
	Consumers	Inhalation	Long-term local effects	0.025 mg/m3
Isocyanic acid, polymethylenepolyphenylene ester	Workers	Dermal	Systemic effects, Short-term exposure	50 mg/kg bw/day
	Workers	Inhalation	Systemic effects, Short-term exposure	0.1 mg/m3
	Workers	Dermal	Local effects, Short-term exposure	27.8 mg/kg bw/day
	Workers	Inhalation	Local effects, Short-term exposure	0.1 mg/m3
	Workers	Inhalation	Long-term systemic effects	0.05 mg/m3
	Workers	Inhalation	Long-term local effects	0.05 mg/m3
	Consumers	Dermal	Systemic effects, Short-term exposure	25 mg/kg bw/day
	Consumers	Inhalation	Systemic effects, Short-term exposure	0.05 mg/m3
	Consumers	Oral	Systemic effects, Short-term exposure	20 mg/kg bw/day
	Consumers	Dermal	Local effects, Short-term exposure	17.2 mg/cm2
	Consumers	Inhalation	Local effects, Short-term exposure	0.05 mg/m3
	Consumers	Inhalation	Long-term systemic effects	0.025 mg/m3
	Consumers	Inhalation	Long-term local effects	0.025 mg/m3

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value

4,4'-Methylenediphenyl diisocyanate	Fresh water	1 mg/l
Remarks:	Assessment Factors	
	Marine water	0.1 mg/l
	Assessment Factors	
	Soil	1 mg/kg
	Assessment Factors	
	Sewage treatment plant	1 mg/l
	Assessment Factors	
Isocyanic acid, polymethylenepolyphenylene ester	Fresh water	1 mg/l
	Assessment Factors	
	Marine water	0.1 mg/l
	Assessment Factors	
	Soil	1 mg/kg
	Assessment Factors	
	Sewage treatment plant	1 mg/l
	Assessment Factors	
	Freshwater - intermittent	10 mg/l

8.2 Exposure controls

Personal protective equipment

Eye protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.
Chemical splash goggles.
Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.
Please follow all applicable local/national requirements when selecting protective measures for a specific workplace.
Ensure that eyewash stations and safety showers are close to the workstation location.

Hand protection
Remarks : Protective gloves should be worn when handling freshly made polyurethane products to avoid contact with trace residual materials which may be hazardous in contact with skin.

Use chemical resistant gloves classified under Standard EN374: protective gloves against chemicals and microorganisms. Examples of glove materials that might provide suitable protection include: Butyl rubber, Chlorinated polyethylene, Polyethylene, Ethyl vinyl alcohol copolymers

laminated (“EVAL”), Polychloroprene (Neoprene*), Nitrile/butadiene rubber (“nitrile” or “NBR”), Polyvinyl chloride (“PVC” or “vinyl”), Fluoroelastomer (Viton*).

When prolonged or frequently repeated contact may occur, a glove with protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN374) is recommended.

When only brief contact is expected, a glove with protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN374) is recommended. Contaminated gloves should be decontaminated and disposed of.

Notice: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all requisite workplace factors such as, but not limited to : other chemicals that may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), as well as instructions/specifications provided by the glove supplier.
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Recommended:
Overall (preferably heavy cotton) or Tyvek-Pro Tech 'C' , Tyvek-Pro 'F' disposable coverall.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.
Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
In emergency, non-routine and unknown exposure situations, including confined space entries, a NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA)or a full facepiece pressure demand supplied air respirator (SAR) with auxiliary self-contained air supply, should be used.

Protective measures : Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing
The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Ensure that eye flushing systems and safety showers are

located close to the working place.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	liquid
Colour	:	brown
Odour	:	No data is available on the product itself.
Odour Threshold	:	No data is available on the product itself.
pH	:	No data is available on the product itself.
Freezing point	:	No data is available on the product itself.
Melting point	:	No data is available on the product itself.
Boiling point	:	No data is available on the product itself.
Flash point	:	190 °C Method: closed cup
Evaporation rate	:	No data is available on the product itself.
Flammability (solid, gas)	:	No data is available on the product itself.
Burning rate	:	No data is available on the product itself.
Upper explosion limit / Upper flammability limit	:	No data is available on the product itself.
Lower explosion limit / Lower flammability limit	:	No data is available on the product itself.
Vapour pressure	:	No data is available on the product itself.
Relative vapour density	:	No data is available on the product itself.
Relative density	:	1.18
Density	:	1.18 g/cm3 (25 °C)
Solubility(ies)		
Water solubility	:	No data is available on the product itself.
Solubility in other solvents	:	No data is available on the product itself.
Partition coefficient: n-octanol/water	:	No data is available on the product itself.

Auto-ignition temperature	:	No data is available on the product itself.
Decomposition temperature	:	No data is available on the product itself.
Viscosity		
Viscosity, dynamic	:	250 mPa.s (25 °C)
Explosive properties	:	No data is available on the product itself.
Oxidizing properties	:	No data is available on the product itself.

9.2 Other information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Reaction with water (moisture) produces CO2-gas.
Exothermic reaction with materials containing active hydrogen groups.
The reaction becomes progressively more vigorous and can be violent at higher temperatures if the miscibility of the reaction partners is good or is supported by stirring or by the presence of solvents.
MDI is insoluble with, and heavier than water and sinks to the bottom but reacts slowly at the interface.
A solid water-insoluble layer of polyurea is formed at the interface by liberating carbon dioxide gas.

10.4 Conditions to avoid

Conditions to avoid : Extremes of temperature and direct sunlight.
Exposure to air or moisture over prolonged periods.

10.5 Incompatible materials

Materials to avoid : Acids
Amines
Bases
Metals
water

10.6 Hazardous decomposition products

Combustion products may include: carbon monoxide, carbon dioxide, nitrogen oxides, hydrocarbons and HCN. In the event of extreme heat (>500 degrees C), aniline is suspected of being formed.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Components:

4,4'-Methylenediphenyl diisocyanate**:**

Acute oral toxicity : LD50 (Rat, male): > 10,000 mg/kg
Method: OECD Test Guideline 401

Isocyanic acid, polymethylenepolyphenylene ester**:**

Acute oral toxicity : LD50 (Rat, male): > 10,000 mg/kg
Method: OECD Test Guideline 401

Methyloxirane, polymer with oxirane, ether with 1,2,3-propanetriol, polymer with 1,1'-methylenebis[isocyanatobenzene]**:**

Acute oral toxicity : LD50 (Rat, male): > 10,000 mg/kg
Method: OECD Test Guideline 401

Methyloxirane, polymer with oxirane, ether with oxybis(propanol), polymer with 1,1'-methylenebis(isocyanatobenzene)**:**

Acute oral toxicity : LD50 (Rat, male): > 10,000 mg/kg
Method: OECD Test Guideline 401

Methylenediphenyldiisocyanate (mixed isomers)**:**

Acute oral toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity - Product : Assessment: The substance/mixture is not toxic on inhalation as defined by dangerous goods regulations.

Acute toxicity estimate : 1.48 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Components:

4,4'-Methylenediphenyl diisocyanate**:**

Acute dermal toxicity : LD50 (Rabbit, male and female): > 9,400 mg/kg
Method: OECD Test Guideline 402

Isocyanic acid, polymethylenepolyphenylene ester**:**
Acute dermal toxicity : LD50 (Rabbit, male and female): > 9,400 mg/kg
Method: OECD Test Guideline 402

Methyloxirane, polymer with oxirane, ether with 1,2,3-propanetriol, polymer with 1,1'-methylenebis[isocyanatobenzene]**:**
Acute dermal toxicity : LD50 (Rabbit, male and female): > 9,400 mg/kg
Method: OECD Test Guideline 402

Methyloxirane, polymer with oxirane, ether with oxybis(propanol), polymer with 1,1'-methylenebis(isocyanatobenzene)**:**
Acute dermal toxicity : LD50 (Rabbit, male and female): > 9,400 mg/kg
Method: OECD Test Guideline 402

Methylenediphenyldiisocyanate (mixed isomers)**:**
Acute dermal toxicity : LD50 (Rabbit, male and female): > 9,400 mg/kg
Method: OECD Test Guideline 402

Acute toxicity (other routes of administration) : No data available

Skin corrosion/irritation

Product:

Remarks: May cause skin irritation and/or dermatitis.

Serious eye damage/eye irritation

Product:

Remarks: Vapours may cause irritation to the eyes, respiratory system and the skin.

Respiratory or skin sensitisation

Product:

Remarks: Causes sensitisation.

Components:

4,4'-Methylenediphenyl diisocyanate**:**
Assessment: May cause sensitisation by inhalation and skin contact.

Isocyanic acid, polymethylenepolyphenylene ester**:**
Assessment: May cause an allergic skin reaction., May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Germ cell mutagenicity

Components:

4,4'-Methylenediphenyl diisocyanate**:**
Genotoxicity in vitro : Concentration: 200 ug/plate
Metabolic activation: with and without metabolic activation
Method: Directive 67/548/EEC, Annex, B.13/14
Result: negative

Isocyanic acid, polymethylenepolyphenylene ester**:**
Genotoxicity in vitro : Concentration: 200 ug/plate
Metabolic activation: with and without metabolic activation
Method: Directive 67/548/EEC, Annex, B.13/14
Result: negative

Methyloxirane, polymer with oxirane, ether with 1,2,3-propanetriol, polymer with 1,1'-methylenebis[isocyanatobenzene]**:**
Genotoxicity in vitro : Concentration: 200 ug/plate
Metabolic activation: with and without metabolic activation
Method: Directive 67/548/EEC, Annex, B.13/14
Result: negative

Methyloxirane, polymer with oxirane, ether with oxybis(propanol), polymer with 1,1'-methylenebis(isocyanatobenzene)**:**
Genotoxicity in vitro : Concentration: 200 ug/plate
Metabolic activation: with and without metabolic activation
Method: Directive 67/548/EEC, Annex, B.13/14
Result: negative

Methylenediphenyldiisocyanate (mixed isomers)**:**
Genotoxicity in vitro : Concentration: 200 ug/plate
Metabolic activation: with and without metabolic activation
Method: Directive 67/548/EEC, Annex, B.13/14
Result: negative

Components:

4,4'-Methylenediphenyl diisocyanate**:**
Genotoxicity in vivo : Application Route: Inhalation
Exposure time: 3 Weeks
Dose: 118 mg/m3
Method: OECD Test Guideline 474
Result: negative

Isocyanic acid, polymethylenepolyphenylene ester**:**
Genotoxicity in vivo : Application Route: Inhalation
Result: Not classified due to inconclusive data.

Application Route: Inhalation
Exposure time: 3 Weeks
Dose: 113 mg/m3
Method: OECD Test Guideline 474
Result: negative

Methyloxirane, polymer with oxirane, ether with 1,2,3-propanetriol, polymer with 1,1'-methylenebis[isocyanatobenzene]**:**

Genotoxicity in vivo : Application Route: Inhalation
Exposure time: 3 Weeks
Dose: 118 mg/m3
Method: OECD Test Guideline 474
Result: negative

Methyloxirane, polymer with oxirane, ether with oxybis(propanol), polymer with 1,1'-methylenebis(isocyanatobenzene)**:**

Genotoxicity in vivo : Application Route: Inhalation
Exposure time: 3 Weeks
Dose: 118 mg/m3
Method: OECD Test Guideline 474
Result: negative

Methylenediphenyldiisocyanate (mixed isomers)**:**

Genotoxicity in vivo : Application Route: Inhalation
Exposure time: 3 Weeks
Dose: 118 mg/m3
Method: OECD Test Guideline 474
Result: negative

Carcinogenicity

Product:

Remarks: Rats have been exposed for two years to a respirable aerosol of polymeric MDI which resulted in chronic pulmonary irritation at high concentrations. Only at the top level (6 mg/m3), there was a significant incidence of a benign tumour of the lung (adenoma) and one malignant tumour (adenocarcinoma). There were no lung tumours at 1 mg/m3 and no effects at 0.2 mg/m3. Overall, the tumour incidence, both benign and malignant, and the number of animals with the tumours were not different from controls. The increased incidence of lung tumours is associated with prolonged respiratory irritation and the concurrent accumulation of yellow material in the lung, which occurred throughout the study. In the absence of prolonged exposure to high concentrations leading to chronic irritation and lung damage, it is highly unlikely that tumour formation will occur.

Components:

4,4'-Methylenediphenyl diisocyanate**:**

Carcinogenicity - Assessment : Suspected human carcinogens

Isocyanic acid, polymethylenepolyphenylene ester**:**
Carcinogenicity - Assessment : Suspected human carcinogens

Methyloxirane, polymer with oxirane, ether with 1,2,3-propanetriol, polymer with 1,1'-methylenebis[isocyanatobenzene]**:**
Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

Methyloxirane, polymer with oxirane, ether with oxybis(propanol), polymer with 1,1'-methylenebis(isocyanatobenzene)**:**
Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

Methylenediphenyldiisocyanate (mixed isomers)**:**
Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

Reproductive toxicity

Components:

Isocyanic acid, polymethylenepolyphenylene ester**:**
Effects on fertility : Species: Rat, male and female
Application Route: Inhalation
Method: OECD Test Guideline 414
Remarks: No significant adverse effects were reported

Methylenediphenyldiisocyanate (mixed isomers)**:**
Species: Rat, male and female
Application Route: Inhalation
Method: OECD Test Guideline 414
Result: No effects on fertility and early embryonic development were detected.

Components:

4,4'-Methylenediphenyl diisocyanate**:**
Effects on foetal development : Species: Rat, female
Application Route: Inhalation
General Toxicity Maternal: No observed adverse effect level: 4 mg/m³
Method: OECD Test Guideline 414
Result: No teratogenic effects

Isocyanic acid, polymethylenepolyphenylene ester**:**
Species: Rat, male and female
Application Route: Inhalation
General Toxicity Maternal: 4 mg/m³
Method: OECD Test Guideline 414
Result: No teratogenic effects

Methyloxirane, polymer with oxirane, ether with 1,2,3-propanetriol, polymer with 1,1'-methylenebis[isocyanatobenzene]**:**

Species: Rat, male and female
Application Route: Inhalation
Method: OECD Test Guideline 414
Result: No teratogenic effects

Methyloxirane, polymer with oxirane, ether with oxybis(propanol), polymer with 1,1'-methylenebis(isocyanatobenzene)**:**
Species: Rat, male and female
Application Route: Inhalation
Method: OECD Test Guideline 414
Result: No teratogenic effects

Methylenediphenyldiisocyanate (mixed isomers)**:**
Species: Rat, female
Application Route: Inhalation
General Toxicity Maternal: No observed adverse effect level: 4 mg/m³
Method: OECD Test Guideline 414
Result: No teratogenic effects

Reproductive toxicity - Assessment : No data available

STOT - single exposure

Components:

4,4'-Methylenediphenyl diisocyanate**:**
Exposure routes: Inhalation
Target Organs: Respiratory Tract
Assessment: May cause respiratory irritation.

Isocyanic acid, polymethylenepolyphenylene ester**:**
Exposure routes: Inhalation
Target Organs: Respiratory Tract
Assessment: May cause respiratory irritation.

Methyloxirane, polymer with oxirane, ether with 1,2,3-propanetriol, polymer with 1,1'-methylenebis[isocyanatobenzene]**:**
Exposure routes: Inhalation
Target Organs: Respiratory system
Assessment: May cause respiratory irritation.

Methyloxirane, polymer with oxirane, ether with oxybis(propanol), polymer with 1,1'-methylenebis(isocyanatobenzene)**:**
Exposure routes: Inhalation
Target Organs: Respiratory system
Assessment: May cause respiratory irritation.

Methylenediphenyldiisocyanate (mixed isomers)**:**
Exposure routes: Inhalation

Target Organs: Respiratory Tract
Assessment: May cause respiratory irritation.

STOT - repeated exposure

Components:

4,4'-Methylenediphenyl diisocyanate**:**
Assessment: May cause damage to organs through prolonged or repeated exposure.

Isocyanic acid, polymethylenepolyphenylene ester**:**
Assessment: May cause damage to organs through prolonged or repeated exposure.
Remarks: Information given is based on data obtained from similar substances.

Methyloxirane, polymer with oxirane, ether with 1,2,3-propanetriol, polymer with 1,1'-methylenebis[isocyanatobenzene]**:**
Exposure routes: Inhalation
Target Organs: Respiratory system
Assessment: May cause damage to organs through prolonged or repeated exposure.

Methyloxirane, polymer with oxirane, ether with oxybis(propanol), polymer with 1,1'-methylenebis(isocyanatobenzene)**:**
Exposure routes: Inhalation
Target Organs: Respiratory system
Assessment: May cause damage to organs through prolonged or repeated exposure.

Methylenediphenyldiisocyanate (mixed isomers)**:**
Exposure routes: Inhalation
Target Organs: Respiratory Tract
Assessment: May cause damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Components:

4,4'-Methylenediphenyl diisocyanate**:**
Species: Rat, male and female
NOEC: 0.2
Exposure time: 2 yrNumber of exposures: 5 d
Method: OECD Test Guideline 453

Isocyanic acid, polymethylenepolyphenylene ester**:**
Species: Rat, male and female
NOEC: 0.2
Test atmosphere: dust/mist
Exposure time: 2 yrNumber of exposures: 5 d
Method: OECD Test Guideline 453

Methyloxirane, polymer with oxirane, ether with 1,2,3-propanetriol, polymer with 1,1'-methylenebis[isocyanatobenzene]**:**
Species: Rat, male and female
NOEC: 0.2
Exposure time: 2 yrNumber of exposures: 5 d
Method: OECD Test Guideline 453

Methyloxirane, polymer with oxirane, ether with oxybis(propanol), polymer with 1,1'-methylenebis(isocyanatobenzene)**:**
Species: Rat, male and female
NOEC: 0.2
Exposure time: 2 yrNumber of exposures: 5 d
Method: OECD Test Guideline 453

Methylenediphenyldiisocyanate (mixed isomers)**:**
Species: Rat, male and female
NOEC: 0.2
Test atmosphere: dust/mist
Exposure time: 2 yrNumber of exposures: 5 d
Method: OECD Test Guideline 453

Repeated dose toxicity - Assessment : No data available

Aspiration toxicity
No data available

Experience with human exposure
General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

Ingestion: No data available

Toxicology, Metabolism, Distribution
No data available

Neurological effects
No data available

Further information

Product:
Remarks: No data available

SECTION 12: Ecological information

12.1 Toxicity

Components:

4,4'-Methylenediphenyl diisocyanate**:**

Toxicity to fish	:	LC50 (Brachydanio rerio (zebrafish)): > 1,000 mg/l Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 1,000 mg/l Exposure time: 24 h Test Type: static test Test substance: Fresh water Method: OECD Test Guideline 202
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: >= 10 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: semi-static test Test substance: Fresh water Method: OECD Test Guideline 211
Toxicity to soil dwelling organisms	:	NOEC: >= 1,000 mg/kg Exposure time: 336 h Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207

Isocyanic acid, polymethylenepolyphenylene ester**:**

Toxicity to fish	:	LC50 (Brachydanio rerio (zebrafish)): > 1,000 mg/l Exposure time: 96 h Test Type: static test Test substance: Fresh water Method: OECD Test Guideline 203 LC0 : > 1,000 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 1,000 mg/l Exposure time: 24 h Test Type: static test Test substance: Fresh water Method: OECD Test Guideline 202
Toxicity to algae	:	EC50 (Desmodesmus subspicatus (green algae)): > 1,640 mg/l Exposure time: 72 h Test Type: static test Test substance: Fresh water Method: OECD Test Guideline 201

Toxicity to microorganisms	:	EC50 (activated sludge): > 100 mg/l Exposure time: 3 h Test Type: static test Test substance: Fresh water Method: OECD Test Guideline 209
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: >= 10 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: semi-static test Test substance: Fresh water Method: OECD Test Guideline 211
Toxicity to soil dwelling organisms	:	EC50: > 1,000 mg/kg Exposure time: 336 h Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207

Methyloxirane, polymer with oxirane, ether with 1,2,3-propanetriol, polymer with 1,1'-methylenebis[isocyanatobenzene]**:**

Toxicity to fish	:	LC50 (Brachydanio rerio (zebrafish)): > 1,000 mg/l Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 1,000 mg/l Exposure time: 24 h Test Type: static test Test substance: Fresh water Method: OECD Test Guideline 202
Toxicity to microorganisms	:	EC50 (activated sludge): > 100 mg/l Exposure time: 3 h Test Type: static test Test substance: Fresh water Method: OECD Test Guideline 209
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: >= 10 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: semi-static test Test substance: Fresh water Method: OECD Test Guideline 211
Toxicity to soil dwelling organisms	:	NOEC: >= 1,000 mg/kg Exposure time: 336 h Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207

Methyloxirane, polymer with oxirane, ether with oxybis(propanol), polymer with 1,1'-methylenebis(isocyanatobenzene)**:**

Toxicity to fish	:	LC50 (Brachydanio rerio (zebrafish)): > 1,000 mg/l

Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1,000 mg/l
Exposure time: 24 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202

Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): > 1,640 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50 (activated sludge): > 100 mg/l
Exposure time: 3 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 209

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: >= 10 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 211

Toxicity to soil dwelling organisms : NOEC: >= 1,000 mg/kg
Exposure time: 336 h
Species: Eisenia fetida (earthworms)
Method: OECD Test Guideline 207

Methylenediphenyldiisocyanate (mixed isomers)**:**

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): > 1,000 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1,000 mg/l
Exposure time: 24 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202

Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): > 1,640 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

Toxicity to microorganisms	:	EC50 (activated sludge): > 100 mg/l Exposure time: 3 h Test Type: static test Test substance: Fresh water Method: OECD Test Guideline 209
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: >= 10 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: semi-static test Test substance: Fresh water Method: OECD Test Guideline 211
Toxicity to soil dwelling organisms	:	EC50: > 1,000 mg/kg Exposure time: 336 h Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207

12.2 Persistence and degradability

Components:

4,4'-Methylenediphenyl diisocyanate**:**

Biodegradability	:	Inoculum: Domestic sewage Concentration: 30 mg/l Result: Not biodegradable Biodegradation: 0 % Exposure time: 28 d Method: OECD Test Guideline 302 C
Stability in water	:	Degradation half life (DT50): 20 hrs (25 °C) Remarks: Fresh water

Isocyanic acid, polymethylenepolyphenylene ester**:**

Biodegradability	:	Inoculum: Domestic sewage Concentration: 30 mg/l Result: Not biodegradable Biodegradation: 0 % Exposure time: 28 d Method: OECD Test Guideline 302 C
Stability in water	:	Degradation half life (DT50): 0.8 d (25 °C) Method: No information available. Remarks: Fresh water

Methyloxirane, polymer with oxirane, ether with 1,2,3-propanetriol, polymer with 1,1'-methylenebis[isocyanatobenzene]**:**

Biodegradability	:	Inoculum: Domestic sewage Concentration: 30 mg/l Result: Not biodegradable Biodegradation: 0 %

Exposure time: 28 d
Method: OECD Test Guideline 302 C

Methyloxirane, polymer with oxirane, ether with oxybis(propanol), polymer with 1,1'-methylenebis(isocyanatobenzene)**:**

Biodegradability : Inoculum: Domestic sewage
Concentration: 30 mg/l
Result: Not biodegradable
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 302 C

Stability in water :

Degradation half life (DT50): 6 d
Remarks: Fresh water

Methylenediphenyldiisocyanate (mixed isomers)**:**

Biodegradability : Inoculum: Domestic sewage
Concentration: 30 mg/l
Result: Not biodegradable
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 302 C

12.3 Bioaccumulative potential

Components:

4,4'-Methylenediphenyl diisocyanate**:**

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 200
Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 4.51 (20 °C)
pH: 7
Method: OECD Test Guideline 117

Isocyanic acid, polymethylenepolyphenylene ester**:**

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 200
Remarks: Bioaccumulation is unlikely.

Methyloxirane, polymer with oxirane, ether with 1,2,3-propanetriol, polymer with 1,1'-methylenebis[isocyanatobenzene]**:**

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 200
Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 4.51 (20 °C)
pH: 7
Method: OECD Test Guideline 117

Methyloxirane, polymer with oxirane, ether with oxybis(propanol), polymer with 1,1'-methylenebis(isocyanatobenzene)**:**

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 200
Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 4.51 (20 °C)
pH: 7
Method: OECD Test Guideline 117

Methylenediphenyldiisocyanate (mixed isomers)**:**

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 200
Remarks: Bioaccumulation is unlikely.

Bioconcentration factor (BCF): 439
Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 4.51 (22 °C)
pH: 7
Method: OECD Test Guideline 117

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

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. Do not re-use empty containers.

SECTION 14: Transport information

IATA
Not regulated as dangerous goods

IMDG
Not regulated as dangerous goods

ADR
Not regulated as dangerous goods

RID
Not regulated as dangerous goods

Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable for product as supplied.

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 59).	:	This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).
REACH - List of substances subject to authorisation (Annex XIV)	:	Not applicable
REACH - List of substances subject to authorisation - Future sunset date	:	Not applicable

Other regulations:
Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

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

DSL	:	All components of this product are on the Canadian DSL
AICS	:	On the inventory, or in compliance with the inventory

NZIoC	:	On the inventory, or in compliance with the inventory
ENCS	:	On the inventory, or in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	Not in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	On the inventory, or in compliance with the inventory

Inventories

AICS (Australia), DSL (Canada), IECSC (China), ENCS (Japan), KECI (Korea), NZIOC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (United States of America (USA))

15.2 Chemical safety assessment

Chemical Safety Assessments for all substances in this product are either Complete or Not applicable.

SECTION 16: Other information

Full text of H-Statements

H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H319	:	Causes serious eye irritation.
H332	:	Harmful if inhaled.
H334	:	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	:	May cause respiratory irritation.
H351	:	Suspected of causing cancer.
H373	:	May cause damage to organs through prolonged or repeated exposure.
H373	:	May cause damage to organs through prolonged or repeated exposure if inhaled.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Carc.	:	Carcinogenicity
Eye Irrit.	:	Eye irritation
Resp. Sens.	:	Respiratory sensitisation

Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitisation
STOT RE	:	Specific target organ toxicity - repeated exposure
STOT SE	:	Specific target organ toxicity - single exposure
GB EH40	:	UK. EH40 WEL - Workplace Exposure Limits
GB EH40 / TWA	:	Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL	:	Short-term exposure limit (15-minute reference period)

Further information

Other information : Liquid decontaminants (percentages by weight or volume) : Decontaminant 1 : *- sodium carbonate : 5 - 10 % *- liquid detergent : 0.2 - 2 % *- water : to make up to 100 % Decontaminant 2 : *- concentrated ammonia solution : 3 - 8 % *- liquid detergent : 0.2 - 2 % *- water : to make up to 100 % Decontaminant 1 reacts slower with diisocyanates but is more environmentally friendly than decontaminant 2. Decontaminant 2 contains ammonia. Ammonia presents health hazards. (See supplier safety information.)

Classification of the mixture:		**Classification procedure:**
Acute Tox. 4	H332	Calculation method
Skin Irrit. 2	H315	Calculation method
Eye Irrit. 2	H319	Calculation method
Resp. Sens. 1	H334	Calculation method
Skin Sens. 1	H317	Calculation method
Carc. 2	H351	Calculation method
STOT SE 3	H335	Calculation method
STOT RE 2	H373	Calculation method

While the information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.