## C Xylene

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#### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : C Xylene

Product code : Q9264

CAS-No. : 1330-20-7

### Manufacturer or supplier's details

Supplier :

SHELL EASTERN CHEMICALS (S)

A REGISTERED BUSINESS OF SHELL EASTERN

TRADING (PTE) LTD (UEN:198902087C)

9 North Buona Vista Drive, #07-01

The Metropolis Tower 1 Singapore 138588

Singapore 138588 Singapore

Telephone : +65 6384 8269 Telefax : +65 6384 8454

Contact for Safety Data

Emergency telephone

Sheet

: +800 2537 8747 ( ALERT SGS- toll Free) or +65 6542 9595

number (ALERT SGS)

### Recommended use of the chemical and restrictions on use

Recommended use : Solvent., Raw material for use in the chemical industry.

Restrictions on use : This product must not be used in applications other than the

above without first seeking the advice of the supplier.

#### 2. HAZARDS IDENTIFICATION

#### **GHS Classification**

Flammable liquids Category 3 Aspiration hazard Category 1 Acute toxicity (Oral) Category 5 Acute toxicity (Dermal) Category 4 Acute toxicity (Inhalation) Category 4 Skin corrosion Category 2 Eye irritation Category 2A Specific target organ toxicity -Category 2

repeated exposure

Specific target organ toxicity -

: Category 3 (Respiratory system)

single exposure

Long-term (chronic) aquatic : Category 3

hazard

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**GHS** label elements

Hazard pictograms







Signal word : Danger

Hazard statements : PHYSICAL HAZARDS:

H226 Flammable liquid and vapour.

**HEALTH HAZARDS:** 

H303 May be harmful if swallowed.

H304 May be fatal if swallowed and enters airways.

H312 Harmful in contact with skin. H315 Causes skin irritation.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

H373 May cause damage to organs (Auditory system) through

prolonged or repeated exposure if inhaled.

ENVIRONMENTAL HAZARDS: H401 Toxic to aquatic life.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

#### Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment. P241 Use explosion-proof electrical/ ventilating/ lighting

equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

P264 Wash hands thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/ protective clothing/ eye

protection/ face protection.

P273 Avoid release to the environment.

#### Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off

immediately all contaminated clothing. Rinse skin with water/ shower.

P370 + P378 In case of fire: Use appropriate media to extinguish.

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.

P331 Do NOT induce vomiting.

P302 + P352 IF ON SKIN: Wash with plenty of water and soap.

P332 + P313 If skin irritation occurs: Get medical advice/

attention.

P362 + P364 Take off contaminated clothing and wash it before

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reuse.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice/attention.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312 Call a POISON CENTER/doctor if you feel unwell.

#### Storage:

P403 + P235 Store in a well-ventilated place. Keep cool. P405 Store locked up.

#### Disposal:

P501 Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.

#### Other hazards which do not result in classification

May form flammable/explosive vapour-air mixture. This material is a static accumulator. Even with proper grounding and bonding, this material can still accumulate an electrostatic charge. If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable airvapour mixtures can occur. Vapours may cause drowsiness and dizziness.

#### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Hazardous components

Chemical name	CAS-No.	Classification	Concentration (% w/w)
Xylene	1330-20-7	Flam. Liq.3; H226 Asp. Tox.1; H304 Acute Tox.5; H303 Acute Tox.4; H312 Acute Tox.4; H332 Skin Corr.2; H315 Eye Irrit.2A; H319 STOT RE2; H373 STOT SE3; H335 Aquatic Chronic3; H412	> 80
Ethylbenzene	100-41-4	Flam. Liq.2; H225 Acute Tox.5; H303 Asp. Tox.1; H304 Skin Irrit.2; H315 Eye Irrit.2A; H319 Acute Tox.4; H332	< 20

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	STOT SE3; H335	
	STOT RE2; H373	
	Aquatic Chronic3;	
	H412	

For explanation of abbreviations see section 16.

#### 4. FIRST-AID MEASURES

General advice : DO NOT DELAY.

Keep victim calm. Obtain medical treatment immediately.

If inhaled : Call emergency number for your location / facility.

> Remove to fresh air. Do not attempt to rescue the victim unless proper respiratory protection is worn. If the victim has difficulty breathing or tightness of the chest, is dizzy, vomiting, or unresponsive, give 100% oxygen with rescue breathing or Cardio-Pulmonary Resuscitation as required and transport to

the nearest medical facility.

In case of skin contact Remove contaminated clothing. Immediately flush skin with

> large amounts of water for at least 15 minutes, and follow by washing with soap and water if available. If redness, swelling, pain and/or blisters occur, transport to the nearest medical

facility for additional treatment.

Immediately flush eye(s) with plenty of water. In case of eye contact

Remove contact lenses, if present and easy to do. Continue

rinsina.

Transport to the nearest medical facility for additional

treatment.

If swallowed : Call emergency number for your location / facility.

> If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing.

Most important symptoms and effects, both acute and delayed

Respiratory irritation signs and symptoms may include a temporary burning sensation of the nose and throat, coughing, and/or difficulty breathing.

Skin irritation signs and symptoms may include a burning

sensation, redness, swelling, and/or blisters.

Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision.

Ingestion may result in nausea, vomiting and/or diarrhoea. If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest

congestion, shortness of breath, and/or fever.

The onset of respiratory symptoms may be delayed for

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several hours after exposure.

If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing. Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, lightheadedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness and death.

Auditory system effects may include temporary hearing loss

and/or ringing in the ears.

Protection of first-aiders : When administering first aid, ensure that you are wearing the

appropriate personal protective equipment according to the

incident, injury and surroundings.

Notes to physician : IMMEDIATE TREATMENT IS EXTREMELY IMPORTANT!

Call a doctor or poison control center for guidance.

Potential for chemical pneumonitis.

Potential for cardiac sensitisation, particularly in abuse situations. Hypoxia or negative inotropes may enhance these

effects. Consider: oxygen therapy.

Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Foam, water spray or fog. Dry chemical powder, carbon

dioxide, sand or earth may be used for small fires only.

Unsuitable extinguishing

media

: Do not use water in a jet.

Specific hazards during

firefighting

: Clear fire area of all non-emergency personnel. Hazardous combustion products may include:

A complex mixture of airborne solid and liquid particulates and

gases (smoke). Carbon monoxide.

Unidentified organic and inorganic compounds.

Flammable vapours may be present even at temperatures

below the flash point.

The vapour is heavier than air, spreads along the ground and

distant ignition is possible.

Will float and can be reignited on surface water.

Specific extinguishing

methods

: Standard procedure for chemical fires.

Keep adjacent containers cool by spraying with water.

Special protective equipment

for firefighters

: Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained

large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in

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a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).

#### **6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures : Observe all relevant local and international regulations. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.

Local authorities should be advised if significant spillages cannot be contained.

: Avoid contact with skin, eyes and clothing.

Isolate hazard area and deny entry to unnecessary or

unprotected personnel.

Do not breathe fumes, vapour. Do not operate electrical equipment.

**Environmental precautions** 

: Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment.

Monitor area with combustible gas indicator.

Methods and materials for containment and cleaning up

: For small liquid spills (< 1 drum), transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove

contaminated soil and dispose of safely.

For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely

Ventilate contaminated area thoroughly.

If contamination of site occurs remediation may require

specialist advice.

Additional advice

: For guidance on selection of personal protective equipment

see Section 8 of this Safety Data Sheet.

For guidance on disposal of spilled material see Section 13 of

this Safety Data Sheet.

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7. HANDLING AND STORAGE			
General Precautions	:	Avoid breathing of or direct contact well ventilated areas. Wash thorough guidance on selection of personal prosection 8 of this Safety Data Sheet. Use the information in this data sheet assessment of local circumstances to appropriate controls for safe handling this material.  Ensure that all local regulations regar storage facilities are followed.	ly after handling. For otective equipment see as input to a risk o help determine g, storage and disposal of
Advice on safe handling	:	Avoid inhaling vapour and/or mists. Avoid contact with skin, eyes and clor Extinguish any naked flames. Do not sources. Avoid sparks. Use local exhaust ventilation if there is vapours, mists or aerosols. Bulk storage tanks should be diked (by When using do not eat or drink.  The vapour is heavier than air, spread distant ignition is possible.	smoke. Remove ignition is risk of inhalation of bunded).
Avoidance of contact	:	Strong oxidising agents.	
Product Transfer	:	Even with proper grounding and bond accumulate an electrostatic charge. It allowed to accumulate, electrostatic of flammable air-vapour mixtures can on handling operations that may give rist that result from the accumulation of sinclude but are not limited to pumping flow), mixing, filtering, splash filling, of tanks and containers, sampling, switch vacuum truck operations, and mechal activities may lead to static discharge Restrict line velocity during pumping if generation of electrostatic discharge submerged to twice its diameter, therefilling. Do NOT use compressed air for handling operations.  Refer to guidance under Handling see	f sufficient charge is discharge and ignition of ccur. Be aware of e to additional hazards tatic charges. These g (especially turbulent leaning and filling of ch loading, gauging, nical movements. These e.g. spark formation. in order to avoid (≤ 1 m/s until fill pipe n ≤ 7 m/s). Avoid splash or filling, discharging, or
Storage			
Conditions for safe storage	:	Refer to section 15 for any additional covering the packaging and storage of	
Other data	:	Storage Temperature: Ambient.	
		Bulk storage tanks should be diked (k	ounded).

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Locate tanks away from heat and other sources of ignition. Cleaning, inspection and maintenance of storage tanks is a specialist operation, which requires the implementation of strict procedures and precautions.

Must be stored in a diked (bunded) well- ventilated area, away from sunlight, ignition sources and other sources of heat. Keep away from aerosols, flammables, oxidizing agents, corrosives and from other flammable products which are not

harmful or toxic to man or to the environment.

Electrostatic charges will be generated during pumping. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment to reduce the risk.

The vapours in the head space of the storage vessel may lie in the flammable/explosive range and hence may be

flammable.

Packaging material : Suitable material: For containers, or container linings use mild

steel, stainless steel., For container paints, use epoxy paint,

zinc silicate paint.

Unsuitable material: Avoid prolonged contact with natural,

butyl or nitrile rubbers.

Container Advice : Do not cut, drill, grind, weld or perform similar operations on or

near containers.

Specific use(s) : Not applicable

> See additional references that provide safe handling practices for liquids that are determined to be static accumulators: American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practices

on Static Electricity).

IEC/TS 60079-32-1: Electrostatic hazards, guidance

#### 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

### Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Xylene	1330-20-7	PEL (long term)	100 ppm 434 mg/m3	SG OEL
Xylene		PEL (short term)	150 ppm 651 mg/m3	SG OEL
Xylene	1330-20-7	TWA	100 ppm 435 mg/m3	OSHA Z-1
Xylene		TWA	20 ppm	ACGIH
Xylene		STEL	150 ppm 655 mg/m3	OSHA P0

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Xylene		TWA	100 ppm 435 mg/m3	OSHA P0
Ethylbenzene	100-41-4	PEL (long term)	100 ppm 434 mg/m3	SG OEL
Ethylbenzene		PEL (short term)	125 ppm 543 mg/m3	SG OEL
Ethylbenzene	100-41-4	TWA	20 ppm	ACGIH
Ethylbenzene		TWA	100 ppm 435 mg/m3	NIOSH REL
Ethylbenzene		ST	125 ppm 545 mg/m3	NIOSH REL
Ethylbenzene		TWA	100 ppm 435 mg/m3	OSHA Z-1

### **Biological occupational exposure limits**

S-No.	Control parameters	Biological specimen	Sampling time	Permissible concentratio	Basis
				n	
	, , ,	Urine		1.5.g/g	SG BTLV
	-	'	-20-7 methylhippu Urine	-20-7 methylhippu Urine	-20-7 methylhippu Urine 1.5.g/g

#### **Monitoring Methods**

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.

Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory.

Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.

National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods http://www.cdc.gov/niosh/

Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/

Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances http://www.hse.gov.uk/

Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA), Germany http://www.dguv.de/inhalt/index.jsp

L'Institut National de Recherche et de Securité, (INRS), France http://www.inrs.fr/accueil

#### **Engineering measures**

: The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include:

Use sealed systems as far as possible.

Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits.

Local exhaust ventilation is recommended.

Firewater monitors and deluge systems are recommended. Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

Eye washes and showers for emergency use.

General Information:

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> Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

Define procedures for safe handling and maintenance of controls.

Educate and train workers in the hazards and control measures relevant to normal activities associated with this product.

Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.

Drain down system prior to equipment break-in or maintenance.

Retain drain downs in sealed storage pending disposal or subsequent recycle.

#### Personal protective equipment

#### Protective measures

Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Respiratory protection

: If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus. If air-filtering respirators are suitable for conditions of use: Select a filter suitable for organic gases and vapours [Type A boiling point >65°C (149°F)].

Where air-filtering respirators are suitable, select an appropriate combination of mask and filter.

Hand protection Remarks

: Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. Longer term protection: Viton. Incidental contact/Splash protection: Nitrile rubber. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced.

For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For

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short-term/splash protection we recommend the same but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm

depending on the glove make and model.

Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of

a non-perfumed moisturizer is recommended.

Eye protection : Wear goggles for use against liquids and gas.

Wear full face shield if splashes are likely to occur.

Skin and body protection : Wear chemical resistant gloves/gauntlets and boots. Where

risk of splashing, also wear an apron.

Wear antistatic and flame-retardant clothing.

Hygiene measures : Wash hands before eating, drinking, smoking and using the

toilet.

Launder contaminated clothing before re-use.

Do not ingest. If swallowed, then seek immediate medical

assistance.

#### **Environmental exposure controls**

General advice : Local guidelines on emission limits for volatile substances

must be observed for the discharge of exhaust air containing

vapour.

Information on accidental release measures are to be found in

section 6.

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Liquid.

Colour : colourless
Odour : aromatic
Odour Threshold : 0.27 ppm

pH : Not applicable Melting point/freezing point :  $< -25 \, ^{\circ}\text{C} / -13 \, ^{\circ}\text{F}$ 

Boiling point/boiling range : Typical 136 - 145 °C / 277 - 293 °F

Flash point : Typical 23 - 27 °C / 73 - 81 °F

Method: Abel

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Evaporation rate 13.5

Method: DIN 53170, di-ethyl ether=1

0.76

Method: ASTM D 3539, nBuAc=1

Flammability (solid, gas) : Not applicable

Upper explosion limit : 7.1 %(V)

Lower explosion limit : 1 %(V)

Vapour pressure : 4.5 kPa (50 °C / 122 °F)

0.8 - 1.2 kPa (20 °C / 68 °F)

0.2 kPa (0 °C / 32 °F)

Relative vapour density : 3.7

Relative density : 0.86 - 0.87Method: ASTM D4052

: Typical 870 kg/m3 (15 °C / 59 °F) Density

Method: ASTM D4052

Solubility(ies)

Water solubility : estimated value(s) 0.2 g/l

Partition coefficient: n-

octanol/water

: log Pow: 3.16

Method: Literature data.

: estimated value(s) 432 - 530 °C / 810 - 986 °F Auto-ignition temperature

Viscosity

: ca. 0.9 mPa.s (20 °C / 68 °F) Viscosity, dynamic

Method: ASTM D445

Viscosity, kinematic  $< 0.9 \text{ mm}2/\text{s} (20 ^{\circ}\text{C} / 68 ^{\circ}\text{F})$ 

Method: ASTM D445

Explosive properties : Not classified

Oxidizing properties : Not applicable

: Typical 28.7 mN/m, 20 °C / 68 °F, ASTM D-971 Surface tension

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Conductivity: < 100 pS/m

The conductivity of this material makes it a static accumulator., A liquid is typically considered nonconductive if its conductivity is below 100 pS/m and is considered semiconductive if its conductivity is below 10,000 pS/m., Whether a liquid is nonconductive or semi-conductive, the precautions are the same., A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid

Particle size : Data not available

Molecular weight : 106 g/mol

#### 10. STABILITY AND REACTIVITY

Reactivity : The product does not pose any further reactivity hazards in

addition to those listed in the following sub-paragraph.

Chemical stability : No hazardous reaction is expected when handled and stored

according to provisions Stable under normal conditions of use.

Possibility of hazardous

reactions

Conditions to avoid

: Reacts with strong oxidising agents.

: Avoid heat, sparks, open flames and other ignition sources.

In certain circumstances product can ignite due to static

electricity.

Incompatible materials : Strong oxidising agents.

Hazardous decomposition

products

: Hazardous decomposition products are not expected to form

during normal storage.

Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases including carbon monoxide, carbon dioxide, sulphur oxides and unidentified organic compounds will be evolved when this

material undergoes combustion or thermal or oxidative

degradation.

#### 11. TOXICOLOGICAL INFORMATION

Basis for assessment : Information given is based on product testing.

Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for

individual component(s).

Information on likely routes of : Inhalation is the primary route of exposure although

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exposure absorption may occur through skin contact or following

accidental ingestion.

**Acute toxicity** 

**Product:** 

Acute oral toxicity : LD 50 Rat, male and female: > 2,000 mg/kg

Method: EC Directive 92/69/EEC B.1 Acute Toxicity (Oral) Remarks: Based on available data, the classification criteria

are not met.

Acute inhalation toxicity : LC 50 Rat, male: 6350 ppm

Exposure time: 4 h
Test atmosphere: vapour

Method: Test(s) equivalent or similar to Directive 67/548/EEC,

Annex V, B.2.

Remarks: Harmful if inhaled.

Acute dermal toxicity : LD 50 Rabbit, male: > 2,000 mg/kg

Method: Literature data Test substance: m-xylene

Remarks: Based on available data, the classification criteria

are not met.

Information given is based on data obtained from similar

substances.

**Components:** 

Xylene:

Acute oral toxicity : LD 50 Rat, male and female: > 2,000 mg/kg

Method: EC Directive 92/69/EEC B.1 Acute Toxicity (Oral) Remarks: Based on available data, the classification criteria

are not met.

Acute inhalation toxicity : LC 50 Rat, male: 6350 ppm

Exposure time: 4 h
Test atmosphere: vapour

Method: Test(s) equivalent or similar to Directive 67/548/EEC,

Annex V, B.2.

Remarks: Harmful if inhaled.

Acute dermal toxicity : LD 50 Rabbit, male: > 2,000 mg/kg

Method: Literature data Test substance: m-xylene

Remarks: Based on available data, the classification criteria

are not met.

Information given is based on data obtained from similar

substances.

Ethylbenzene:

Acute oral toxicity : LD50 Rat: > 2000 - 5000 mg/kg

Remarks: May be harmful if swallowed.

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Acute inhalation toxicity : LC50 : > 10 - 20 mg/l

Remarks: Harmful if inhaled.

Acute dermal toxicity : LD50 Rabbit: > 5000 mg/kg

Remarks: Low toxicity

#### Skin corrosion/irritation

#### **Product:**

Species: Rabbit

Method: Literature data

Remarks: Causes skin irritation.

### **Components:**

### Xylene:

Species: Rabbit

Method: Literature data

Remarks: Causes skin irritation.

#### Ethylbenzene:

Remarks: Causes skin irritation.

### Serious eye damage/eye irritation

### **Product:**

Species: Rabbit

Method: Acceptable non-standard method. Remarks: Causes serious eye irritation.

### **Components:**

## Xylene:

Species: Rabbit

Method: Acceptable non-standard method. Remarks: Causes serious eye irritation.

### Ethylbenzene:

Remarks: Causes serious eye irritation.

### Respiratory or skin sensitisation

#### **Product:**

Species: Mouse

Method: Test(s) equivalent or similar to OECD Test Guideline 429 Remarks: Based on available data, the classification criteria are not met.

### **Components:**

### Xylene:

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Species: Mouse

Method: Test(s) equivalent or similar to OECD Test Guideline 429 Remarks: Based on available data, the classification criteria are not met.

#### Ethylbenzene:

Remarks: Not a sensitiser.

Based on available data, the classification criteria are not met.

#### Germ cell mutagenicity

#### **Product:**

Genotoxicity in vitro : Method: Test(s) equivalent or similar to Directive 67/548/EEC,

Annex V, B.10

Remarks: Based on available data, the classification criteria

are not met.

: Method: Test(s) equivalent or similar to Directive 67/548/EEC,

Annex V, B.19

Remarks: Based on available data, the classification criteria

are not met.

: Test species: MouseMethod: OECD Test Guideline 478 Remarks: Based on available data, the classification criteria

are not met.

Germ cell mutagenicity-

Assessment

: This product does not meet the criteria for classification in

categories 1A/1B.

#### **Components:**

#### Xylene:

Genotoxicity in vitro : Method: Test(s) equivalent or similar to Directive 67/548/EEC,

Annex V, B.10

Remarks: Based on available data, the classification criteria

are not met.

: Method: Test(s) equivalent or similar to Directive 67/548/EEC,

Annex V, B.19

Remarks: Based on available data, the classification criteria

are not met.

: Test species: MouseMethod: OECD Test Guideline 478

Remarks: Based on available data, the classification criteria

are not met.

Germ cell mutagenicity-

Assessment

: This product does not meet the criteria for classification in

categories 1A/1B.

Ethylbenzene:

: Remarks: Not mutagenic.

#### Carcinogenicity

### **Product:**

Species: Rat, (male and female)

Application Route: Oral

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Version 1.0 Revision Date 29.06.2023 Print Date 05.07.2023

Method: Test(s) equivalent or similar to Directive 67/548/EEC, Annex V, B.32 Remarks: Based on available data, the classification criteria are not met.

Carcinogenicity - : This product does not meet the criteria for classification in

Assessment categories 1A/1B.

#### **Components:**

Xylene:

Species: Rat, (male and female) Application Route: Oral

Method: Test(s) equivalent or similar to Directive 67/548/EEC, Annex V, B.32 Remarks: Based on available data, the classification criteria are not met.

Carcinogenicity - : This product does not meet the criteria for classification in

Assessment categories 1A/1B.

#### Ethylbenzene:

Remarks: Limited evidence of carcinogenic effect, Causes cancer in laboratory animals.

Material	GHS/CLP Carcinogenicity Classification	
Xylene	No carcinogenicity classification.	
Ethylbenzene	No carcinogenicity classification.	

Material	Other Carcinogenicity Classification	
Xylene	IARC: Group 3: Not classifiable as to its carcinogenicity to humans	
Ethylbenzene	IARC: Group 2B: Possibly carcinogenic to humans	

### Reproductive toxicity

#### **Product:**

: Species: Rat

Sex: male and female

Application Route: Inhalation

Method: Acceptable non-standard method.

Remarks: Based on available data, the classification criteria

are not met.

Effects on foetal development

: Species: Rat, female

Application Route: Inhalation

Method: Test(s) equivalent or similar to OECD Test Guideline

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Remarks: Based on available data, the classification criteria

are not met.

## **C** Xylene

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Reproductive toxicity -

Assessment

This product does not meet the criteria for classification in

categories 1A/1B.

Components:

Xylene:

: Species: Rat

Sex: male and female Application Route: Inhalation

Method: Acceptable non-standard method.

Remarks: Based on available data, the classification criteria

are not met.

Effects on foetal development

Species: Rat, female

Application Route: Inhalation

Method: Test(s) equivalent or similar to OECD Test Guideline

Remarks: Based on available data, the classification criteria

are not met.

Reproductive toxicity -

Assessment

This product does not meet the criteria for classification in

categories 1A/1B.

Ethylbenzene:

Remarks: Not a developmental toxicant., Based on available data, the classification criteria are not met., Does not impair

fertility.

### STOT - single exposure

#### **Product:**

Exposure routes: Inhalation Target Organs: Respiratory Tract

Remarks: High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness.

### **Components:**

#### Xylene:

Exposure routes: Inhalation Target Organs: Respiratory Tract

Remarks: High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness., Inhalation of vapours or mists may cause irritation to the respiratory system., May cause

respiratory irritation.

### Ethylbenzene:

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Remarks: Inhalation of vapours or mists may cause irritation to the respiratory system.

#### STOT - repeated exposure

#### **Product:**

Exposure routes: Inhalation Target Organs: Auditory system

Remarks: May cause damage to organs or organ systems through prolonged or repeated exposure., Harmful: danger of serious damage to health by prolonged exposure through inhalation., Solvent abuse and noise interaction in the work environment may cause hearing loss.

#### Components:

#### Xylene:

Exposure routes: Inhalation Target Organs: Auditory system

Remarks: May cause damage to organs or organ systems through prolonged or repeated exposure.. Harmful: danger of serious damage to health by prolonged exposure through inhalation., Solvent abuse and noise interaction in the work environment may cause hearing loss.

#### Ethylbenzene:

Remarks: Harmful: danger of serious damage to health by prolonged exposure through inhalation., Auditory system: prolonged and repeated exposures to high concentrations have resulted in hearing loss in rats. Solvent abuse and noise interaction in the work environment may cause hearing loss., Kidney: can cause kidney damage., Liver: can cause liver damage., Central nervous system: repeated exposure affects the nervous system.

## Repeated dose toxicity

#### **Product:**

Rat, male and female: Application Route: Oral

Method: Test(s) equivalent or similar to OECD Test Guideline 408

Target Organs: No specific target organs noted

Remarks: Over exposures of humans to xylene or xylene solvent mixtures produced predominately central nervous system (CNS) effects with less common effects reported to the lung, gastrointestinal tract, liver, kidney and heart.

Available animal and human results in auditory system provide limited evidence that xylenes may induce decrements in human hearing, and it was unclear if these changes were temporary or permanent.

Rat, male:

Application Route: Inhalation Test atmosphere: vapour Method: Literature data

Target Organs: Auditory system

Remarks: Over exposures of humans to xylene or xylene solvent mixtures produced predominately central nervous system (CNS) effects with less common effects reported to the

lung, gastrointestinal tract, liver, kidney and heart.

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Available animal and human results in auditory system provide limited evidence that xylenes may induce decrements in human hearing, and it was unclear if these changes were temporary or permanent.

#### Components:

#### Xylene:

Rat, male and female: Application Route: Oral

Method: Test(s) equivalent or similar to OECD Test Guideline 408

Target Organs: No specific target organs noted

Remarks: Over exposures of humans to xylene or xylene solvent mixtures produced predominately central nervous system (CNS) effects with less common effects reported to the lung, gastrointestinal tract, liver, kidney and heart.

Available animal and human results in auditory system provide limited evidence that xylenes may induce decrements in human hearing, and it was unclear if these changes were temporary or permanent.

Rat, male:

Application Route: Inhalation Test atmosphere: vapour Method: Literature data

Target Organs: Auditory system

Remarks: Over exposures of humans to xylene or xylene solvent mixtures produced predominately central nervous system (CNS) effects with less common effects reported to the lung, gastrointestinal tract, liver, kidney and heart.

Available animal and human results in auditory system provide limited evidence that xylenes may induce decrements in human hearing, and it was unclear if these changes were temporary or permanent.

#### **Aspiration toxicity**

#### **Product:**

Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.

#### **Components:**

### Xylene:

Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.

### Ethylbenzene:

Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.

#### **Further information**

#### **Product:**

Remarks: Classifications by other authorities under varying regulatory frameworks may exist.

#### **Components:**

## C Xylene

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Xylene:

Remarks: Classifications by other authorities under varying regulatory frameworks may exist.

Ethylbenzene:

Remarks: Classifications by other authorities under varying regulatory frameworks may exist.

#### 12. ECOLOGICAL INFORMATION

Basis for assessment : Incomplete ecotoxicological data are available for this product.

The information given below is based partly on a knowledge of the components and the ecotoxicology of similar products.

Unless indicated otherwise, the data presented is

representative of the product as a whole, rather than for individual component(s). Incomplete ecotoxicological data are available for this product. The information given below is based partly on a knowledge of the components and the

ecotoxicology of similar products.

#### **Ecotoxicity**

#### **Product:**

Toxicity to fish (Acute

toxicity)

: LC50 (Oncorhynchus mykiss (rainbow trout)): 2.6 mg/l

Exposure time: 96 h

Method: Information given is based on data obtained from

similar substances. Remarks: Toxic

 $LL/EL/IL50 > 1 \le 10 \text{ mg/l}$ 

Toxicity to crustacean (Acute

toxicity)

: EC50 (Daphnia magna (Water flea)): 3.82 mg/l

Exposure time: 48 h

Method: Information given is based on data obtained from

similar substances. Remarks: Toxic

LC/EC/IC50 >1 - <=10 mg/l

Toxicity to algae/aguatic

plants (Acute toxicity)

: EC50 (Pseudokirchneriella subcapitata (algae)): 2.2 mg/l

Exposure time: 72 h

Method: Information given is based on data obtained from

similar substances. Remarks: Toxic

LC/EC/IC50 >1 - <=10 mg/l

Toxicity to fish (Chronic

toxicity)

: NOEC: > 1.3 mg/l

Exposure time: 56 d

Species: Oncorhynchus mykiss (rainbow trout)

Method: Literature data.

Remarks: NOEC/NOEL > 1.0 - <= 10 mg/l

Toxicity to crustacean

(Chronic toxicity)

: NOEC: 0.96 mg/l Exposure time: 7 d

Species: Ceriodaphnia dubia (Water flea)

Method: Other guideline method.

Remarks: NOEC/NOEL > 0.1 - <=1.0 mg/l

## C Xylene

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Toxicity to microorganisms

(Acute toxicity)

: EC50 (Activated sludge): > 157 mg/l

Exposure time: 3 h

Method: Information given is based on data obtained from

similar substances.

Remarks: Practically non toxic:

LL/EL/IL50 > 100 mg/l

Components:

Xylene:

Toxicity to fish (Acute

toxicity)

: LC50 (Oncorhynchus mykiss (rainbow trout)): 2.6 mg/l

Exposure time: 96 h

Method: Information given is based on data obtained from

similar substances. Remarks: Toxic

 $LL/EL/IL50 > 1 \le 10 \text{ mg/l}$ 

Toxicity to crustacean (Acute

toxicity)

: EC50 (Daphnia magna (Water flea)): 3.82 mg/l

Exposure time: 48 h

Method: Information given is based on data obtained from

similar substances. Remarks: Toxic

LC/EC/IC50 >1 - <=10 mg/l

Toxicity to algae/aquatic

plants (Acute toxicity)

: EC50 (Pseudokirchneriella subcapitata (algae)): 2.2 mg/l

Exposure time: 72 h

Method: Information given is based on data obtained from

similar substances. Remarks: Toxic

LC/EC/IC50 >1 - <=10 mg/l

Toxicity to microorganisms

(Acute toxicity)

: EC50 (Activated sludge): > 157 mg/l

Exposure time: 3 h

Method: Information given is based on data obtained from

similar substances.

Remarks: Practically non toxic:

LL/EL/IL50 > 100 mg/l

Toxicity to fish (Chronic

toxicity)

: NOEC: > 1.3 mg/l

Exposure time: 56 d

Species: Oncorhynchus mykiss (rainbow trout)

Method: Literature data.

Remarks: NOEC/NOEL > 1.0 - <= 10 mg/l

Toxicity to

crustacean(Chronic toxicity)

: NOEC: 0.96 mg/l

Exposure time: 7 d Species: Ceriodaphnia dubia (Water flea)

Method: Other guideline method.

Remarks: NOEC/NOEL > 0.1 - <=1.0 mg/l

Ethylbenzene:

Toxicity to fish (Acute

Remarks: Toxic

toxicity)

LC/EC/IC50 >1 - <=10 mg/l

## C Xylene

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Toxicity to crustacean (Acute

toxicity)

: Remarks: Toxic

LC/EC/IC50 >1 - <=10 mg/l

Toxicity to algae/aquatic plants (Acute toxicity)

: EC50 : Remarks: Toxic LC/EC/IC50 >1 - <=10 mg/l

Toxicity to microorganisms

(Acute toxicity)

: Remarks: Harmful

LC/EC/IC50 >10 - <=100 mg/l

Toxicity to fish (Chronic

toxicity)

: Remarks: NOEC/NOEL > 0.1 - <=1.0 mg/l

### Persistence and degradability

#### **Product:**

Biodegradability : Biodegradation: 87.8 %

Exposure time: 28 d

Method: Information given is based on data obtained from

similar substances.

Remarks: Readily biodegradable.

Remarks: Not Persistent per IMO criteria., International Oil Pollution Compensation (IOPC) Fund definition: "A non-persistent oil is oil, which, at the time of shipment, consists of hydrocarbon fractions, (a) at least 50% of which, by volume, distills at a temperature of 340°C (645°F) and (b) at least 95% of which, by volume, distills at a temperature of 370°C (700°F) when tested by the ASTM Method D-86/78 or any subsequent

revision thereof."

#### **Components:**

Xylene:

Biodegradability : Biodegradation: 87.8 %

Exposure time: 28 d

Method: Information given is based on data obtained from

similar substances.

Remarks: Readily biodegradable.

Ethylbenzene:

Biodegradability : Remarks: Readily biodegradable.

Oxidises rapidly by photo-chemical reactions in air.

Not Persistent per IMO criteria.

International Oil Pollution Compensation (IOPC) Fund definition: "A non-persistent oil is oil, which, at the time of shipment, consists of hydrocarbon fractions, (a) at least 50% of which, by volume, distills at a temperature of 340°C (645°F)

and (b) at least 95% of which, by volume, distils at a temperature of 370°C (700°F) when tested by the ASTM Method D-86/78 or any subsequent revision thereof."

#### **Bioaccumulative potential**

#### **Product:**

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Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)

Exposure time: 56 d

Bioconcentration factor (BCF): 29

Method: Literature data.

Remarks: Does not bioaccumulate significantly.

Partition coefficient: n-

octanol/water Components:

: log Pow: 3.16Method: Literature data.

Components: Xylene :

Bioaccumulation

: Species: Oncorhynchus mykiss (rainbow trout)

Exposure time: 56 d

Bioconcentration factor (BCF): 29

Method: Literature data.

Remarks: Does not bioaccumulate significantly.

Partition coefficient: n-

octanol/water
Ethylbenzene:
Bioaccumulation

: log Pow: 3.16Method: Literature data.

: Remarks: Does not bioaccumulate significantly.

### Mobility in soil

#### **Product:**

Mobility : Remarks: Floats on water., If it enters soil, it will adsorb to soil

particles and will not be mobile.

**Components:** 

Xylene:

Mobility : Remarks: Floats on water., If it enters soil, it will adsorb to soil

particles and will not be mobile.

Ethylbenzene:

Mobility : Remarks: If the product enters soil, one or more constituents

will or may be mobile and may contaminate groundwater.,

Floats on water.

#### Other adverse effects

#### **Product:**

Results of PBT and vPvB

assessment

: The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not

considered to be PBT or vPvB.

### Components:

#### Xylene:

Results of PBT and vPvB

assessment

: The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not

considered to be PBT or vPvB.

### Ethylbenzene:

Additional ecological

information

: In view of the high rate of loss from solution, the product is

unlikely to pose a significant hazard to aquatic life.

## 13. DISPOSAL CONSIDERATIONS

## C Xylene

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#### **Disposal methods**

Waste from residues

: Recover or recycle if possible.

It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Waste product should not be allowed to contaminate soil or ground water, or be disposed of into the environment. Do not dispose into the environment, in drains or in water courses.

Do not dispose of tank water bottoms by allowing them to drain into the ground. This will result in soil and groundwater contamination.

Waste arising from a spillage or tank cleaning should be disposed of in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.

Waste, spills or used product is dangerous waste.

Disposal should be in accordance with applicable regional,

national, and local laws and regulations.

Local regulations may be more stringent than regional or national requirements and must be complied with.

MARPOL - see International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) which provides technical aspects at controlling pollutions from ships.

Contaminated packaging

: Drain container thoroughly.

After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard. Do not puncture,

cut or weld uncleaned drums.

Send to drum recoverer or metal reclaimer.

Comply with any local recovery or waste disposal regulations.

#### 14. TRANSPORT INFORMATION

#### **International Regulations**

ADR

UN number : 1307
Proper shipping name : XYLENES

Class : 3
Packing group : III
Labels : 3
Hazard Identification Number : 30
Environmentally hazardous : no

**IATA-DGR** 

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UN/ID No. UN 1307 **XYLENES** Proper shipping name

3 Class : III Packing group 3 Labels :

**IMDG-Code** 

: UN 1307 UN number Proper shipping name : XYLENES

Class 3 Packing group : 111 Labels : 3 Marine pollutant : no

#### Maritime transport in bulk according to IMO instruments

Pollution category : Y Ship type 2

Product name : Xylene (Mixed Isomers)

Special precautions for user

Remarks : Special Precautions: Refer to Section 7, Handling & Storage,

for special precautions which a user needs to be aware of or

needs to comply with in connection with transport.

**Additional Information** : This product may be transported under nitrogen blanketing.

> Nitrogen is an odourless and invisible gas. Exposure to nitrogen enriched atmospheres displaces available oxygen which may cause asphyxiation or death. Personnel must observe strict safety precautions when involved with a

confined space entry. Transport in bulk according to Annex II

of Marpol and the IBC Code

#### 15. REGULATORY INFORMATION

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

#### **Local Regulations**

Workplace Safety and Health Act & Workplace Safety and Health (General Provision) Regulations	This product is subject to the SDS, Labelling, PEL and other requirements in the Act/ Regulations.
Fire Safety Act and Fire Safety (Petroleum & Flammable Materials) Regulations	This product is subject to the requirements in the Act/ Regulations.
Maritime and Port Authority of Singapore (Dangerous Goods, Petroleum and Explosives) Regulations	This product is subject to the requirements of this regulation.
·	
Environmental Protection and Management Act and Environmental Protection and	This product is not subject to the requirements in the Act/Regulations.

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Management (Hazardous Substances)

Regulations

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

#### Other international regulations

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

AIIC : Listed DSL Listed **IECSC** Listed **ENCS** Listed KECI Listed Listed NZIoC Listed **PICCS TSCA** Listed TCSI Listed

#### **16. OTHER INFORMATION**

#### **Full text of H-Statements**

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H303	May be harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.

# H412 Harmful to aquatic life with long lasting effects. Full text of other abbreviations

Acute Tox. Acute toxicity

Aquatic Chronic Long-term (chronic) aquatic hazard

Asp. Tox. Aspiration hazard
Eye Irrit. Eye irritation
Flam. Liq. Flammable liquids
Skin Corr. Skin corrosion
Skin Irrit. Skin irritation

STOT RE Specific target organ toxicity - repeated exposure STOT SE Specific target organ toxicity - single exposure

#### **Abbreviations and Acronyms**

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with

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x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO -International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 -Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC -New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG -Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

#### **Further information**

Training advice : Provide adequate information, instruction and training for

operators.

Other information : A vertical bar (|) in the left margin indicates an amendment

from the previous version.

Sources of key data used to compile the Safety Data

Sheet

The guoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Shell Health Services, material suppliers' data, CONCAWE, EU

IUCLID date base, EC 1272 regulation, etc).

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

SG / EN