1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name	:	ShellSol X7B
Product code	:	Q6007

Manufacturer or supplier's details

Manufacturer/Supplier	:	**Shell Chemicals Europe B.V.** PO Box 2334 3000 CH Rotterdam Netherlands
Telephone	:	+31 (0)10 441 5137 / +31 (0)10 441 5191
Telefax	:	+31 (0)20 716 8316 / +31 (0)20 713 9230
Emergency telephone number	:	+44 (0) 1235 239 670 (NCEC) This telephone number is available 24 hours per day, 7 days per week 08 61555777 (Local Poison Centre)

Recommended use of the chemical and restrictions on use

Recommended use	:	Industrial Solvent.
Restrictions on use	:	This product must not be used in applications other than the above without first seeking the advice of the supplier.
Other information	:	SHELLSOL is a trademark owned by Shell Trademark Management B.V. and Shell Brands Inc. and used by affiliates of Shell plc.

2. HAZARDS IDENTIFICATION

Classification (REGULATION (EC) No 1272/2008)

Flammable liquids	:	Category 2
Aspiration hazard	:	Category 1
Skin irritation	:	Category 2
Eye irritation	:	Category 2
Specific target organ toxicity - single exposure	:	Category 3
Specific target organ toxicity - single exposure	:	Category 3 (Narcotic effects)
Reproductive toxicity	:	Category 2
Specific target organ toxicity - repeated exposure	:	Category 2 (Auditory system)
Long-term (chronic) aquatic hazard	:	Category 2

Label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : PHYSICAL HAZARDS:
H225 Highly flammable liquid and vapour.
HEALTH HAZARDS:
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs (Auditory system) through prolonged or repeated exposure.
ENVIRONMENTAL HAZARDS:
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P331 Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Storage:
No precautionary phrases.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

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 air-vapour mixtures can occur.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No. EC-No. Registration number	Classification (REGULATION (EC) No 1272/2008)	Concentration (% w/w)
Xylene, mixed isomers	1330-20-7	Flam. Liq. 3; H226 Asp. Tox. 1; H304 Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Acute Tox. 4; H332 STOT SE 3; H335 STOT RE 2; H373 Aquatic Chronic 3; H412	<= 45
Toluene	108-88-3	Flam. Liq. 2; H225 Asp. Tox. 1; H304 Skin Irrit. 2; H315 STOT SE 3; H336 Repr. 2; H361d STOT RE 2; H373 Aquatic Chronic 3; H412	<= 40
Naphtha (petroleum), hydrotreated light	64742-49-0	Flam. Liq. 2; H225 Asp. Tox. 1; H304 Skin Irrit. 2; H315 STOT SE 3; H336 Repr. 2; H361 STOT RE 2; H373 Aquatic Chronic 2; H411	<= 35
Ethylbenzene	100-41-4	Flam. Liq. 2; H225 Asp. Tox. 1; H304 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Acute Tox. 4; H332 STOT SE 3; H335 STOT RE 2; H373 Aquatic Chronic 3; H412	<= 15

For explanation of abbreviations see section 16.

4. FIRST-AID MEASURES

General advice	:	Not expected to be a health hazard when used under normal conditions.
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.
In case of eye contact	:	Immediately flush eye(s) with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. 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. Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness and death. 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. If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever. 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.

Auditory system effects may include temporary hearing loss and/or ringing in the ears.
Visual system disturbances may be evidenced by decreases in the ability to discriminate between colours.

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.
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 Breathing Apparatus must be worn when approaching a fire in 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.

7. HANDLING AND STORAGE

General Precautions : Avoid breathing of or direct contact with material. Only use in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Section 8 of this Safety Data Sheet.
Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.
Ensure that all local regulations regarding handling and storage facilities are followed.

Advice on safe handling	:	Avoid inhaling vapour and/or mists. Avoid contact with skin, eyes and clothing. Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Bulk storage tanks should be diked (bunded). When using do not eat or drink. The vapour is heavier than air, spreads along the ground and distant ignition is possible.
Avoidance of contact	:	Strong oxidising agents.
Product Transfer	:	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 air-vapour mixtures can occur. Be aware of handling operations that may give rise to additional hazards that result from the accumulation of static charges. These include but are not limited to pumping (especially turbulent flow), mixing, filtering, splash filling, cleaning and filling of tanks and containers, sampling, switch loading, gauging, vacuum truck operations, and mechanical movements. These activities may lead to static discharge e.g. spark formation. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (≤ 1 m/s until fill pipe submerged to twice its diameter, then ≤ 7 m/s). Avoid splash filling. Do NOT use compressed air for filling, discharging, or handling operations. Refer to guidance under Handling section.

Storage

Conditions for safe storage	:	Refer to section 15 for any additional specific legislation covering the packaging and storage of this product.
Other data	:	Storage Temperature: Ambient. Bulk storage tanks should be diked (bunded). 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, mixed isomers	1330-20-7	OEL- RL STEL/C	300 ppm	ZA OEL
	Further information: danger of cutaneous absorption, Occupational Exposure Limits - Restricted Limits For Hazardous Chemical Agents			
		OEL-RL	200 ppm	ZA OEL
	Further information: danger of cutaneous absorption, Occupational Exposure Limits - Restricted Limits For Hazardous Chemical Agents			
Toluene	108-88-3	OEL-RL	40 ppm	ZA OEL
	Further information: danger of cutaneous absorption, Occupational Exposure Limits - Restricted Limits For Hazardous Chemical Agents			
Ethylbenzene	100-41-4	OEL-RL	40 ppm	ZA OEL
	Further information: danger of cutaneous absorption, Occupational Exposure Limits - Restricted Limits For Hazardous Chemical Agents, denotes carcinogenicity, which is based on GHS categorisation, including category 1A, 1B			

Biological occupational exposure limits

Component	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis

Xylene, mixed isomers	1330-20-7	Methylhippuric acids	Urine	End of shift	1.5.g/g creatinine	ZA BEI
Toluene	108-88-3	Toluene	Blood	Prior to last shift of workweek	0,02 mg/l	ZA BEI
Toluene		Toluene	Urine	End of shift	0,03 mg/l	ZA BEI
Toluene		o-Cresol	Urine	End of shift	0.3.mg/g creatinine	ZA BEI
Remarks:	Background. The determinant may be present in biological specimens collected from subjects who have not been occupationally exposed, at a concentration which could affect interpretation of the results. Such background concentrations are incorporated in the BEI value.					
Ethylbenzene	100-41-4	Sum of mandelic acid and phenylglyoxylic acid	Urine	End of shift	0.15.g/g creatinine	ZA BEI
Remarks:	Non-specific. The determinant is non-specific, since it is also observed after exposure to other chemicals.					

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:
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 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	:	clear
Odour	:	aromatic
Odour Threshold	:	Data not available
pH	:	Not applicable
pour point	:	< -30 °C / < -22 °F
Boiling point/boiling range	:	100 - 140 °C / 212 - 284 °F
Flash point	:	6 °C / 43 °F
Evaporation rate	:	1,3 Method: ASTM D 3539, nBuAc=1
Flammability (solid, gas)	:	Not applicable

Upper explosion limit	:	ca. 7 %(V)
Lower explosion limit	:	ca. 0,9 %(V)
Vapour pressure	:	15 hPa (0 °C / 32 °F) 30 hPa (20 °C / 68 °F)
Relative vapour density	:	3,5
Relative density	:	Data not available
Density	:	0,823 g/cm3 (20 °C / 68 °F) Method: ASTM D4052
Solubility(ies)		
Water solubility	:	< 0,5 g/l
Partition coefficient: n-octanol/water	:	log Pow: 2,7 - 5,7
Auto-ignition temperature	:	> 250 °C / > 482 °F
Decomposition temperature	:	Data not available
Viscosity		
Viscosity, dynamic	:	< 1 mPa.s (25 °C / 77 °F) Method: ASTM D445
Viscosity, kinematic	:	0,7 mm2/s (25 °C / 77 °F) Method: ASTM D445
Explosive properties	:	Not classified
Oxidizing properties	:	Data not available
Surface tension	:	Data not available
Conductivity	:	Low 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 semi-conductive 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
Molecular weight	:	Data not available

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	:	Reacts with strong oxidising agents.
Conditions to avoid	:	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 data from components.
Information on likely routes of exposure	:	Exposure may occur via inhalation, ingestion, skin absorption, skin or eye contact, and accidental ingestion.

Acute toxicity

Components:

Xylene, mixed isomers:

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.

Toluene:

Acute oral toxicity : LD 50 Rat, male: > 5.000 mg/kg
Method: Test(s) equivalent or similar to OECD Test Guideline 401
Remarks: Based on available data, the classification criteria are not met.

Acute inhalation toxicity : LC 50 Rat, male and female: > 20 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Test(s) equivalent or similar to OECD Test Guideline 403
Remarks: Based on available data, the classification criteria are not met.
High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea.

Acute dermal toxicity : LD 50 Rabbit, male: > 5.000 mg/kg
Method: Literature data
Remarks: Based on available data, the classification criteria are not met.

Naphtha (petroleum), hydrotreated light:

Acute oral toxicity : LD50 Rat: > 5000 mg/kg
Remarks: Low toxicity

Acute inhalation toxicity : LC50 Rat: > 20 mg/l
Remarks: Low toxicity by inhalation.

Acute dermal toxicity : LD50 Rabbit: > 2000 mg/kg
Remarks: Low toxicity

Ethylbenzene:

Acute oral toxicity : LD50 Rat: > 2000 - 5000 mg/kg
Remarks: May be harmful if swallowed.

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

Components:

Xylene, mixed isomers:
Species: Rabbit
Method: Literature data
Remarks: Causes skin irritation.

Toluene:
Species: Rabbit
Method: Test(s) equivalent or similar to OECD Test Guideline 404
Remarks: Causes skin irritation.

Naphtha (petroleum), hydrotreated light:
Remarks: Causes skin irritation., Repeated exposure may cause skin dryness or cracking.

Ethylbenzene:
Remarks: Causes skin irritation.

Serious eye damage/eye irritation

Components:

Xylene, mixed isomers:
Species: Rabbit
Method: Acceptable non-standard method.
Remarks: Causes serious eye irritation.

Toluene:
Species: Rabbit
Method: OECD Test Guideline 405
Remarks: Slightly irritating., Insufficient to classify.

Naphtha (petroleum), hydrotreated light:
Remarks: Not irritating to eye., Vapours may be irritating to the eye.

Ethylbenzene:
Remarks: Causes serious eye irritation.

Respiratory or skin sensitisation

Components:

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

Toluene:
Species: Guinea pig
Method: Test(s) equivalent or similar to OECD Test Guideline 406
Remarks: Based on available data, the classification criteria are not met.

Naphtha (petroleum), hydrotreated light:
Remarks: Not a sensitiser.
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

Components:

Xylene, mixed isomers:

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.

Toluene:

Method: Test(s) equivalent or similar to OECD Guideline 471
Remarks: Based on available data, the classification criteria are not met.

Method: Test(s) equivalent or similar to OECD Test Guideline 476
Remarks: Based on available data, the classification criteria are not met.

Test species: RatMethod: Acceptable non-standard method.
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.

Naphtha (petroleum), hydrotreated light:

Remarks: Not mutagenic.

Ethylbenzene:

Remarks: Not mutagenic.

Carcinogenicity

Components:

Xylene, mixed isomers:
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 - Assessment : This product does not meet the criteria for classification in categories 1A/1B.

Toluene:
Species: Rat, (male and female)
Application Route: Inhalation
Method: OECD Test Guideline 453
Remarks: Based on available data, the classification criteria are not met.

Carcinogenicity - Assessment : This product does not meet the criteria for classification in categories 1A/1B.

Naphtha (petroleum), hydrotreated light:

Remarks: Tumours produced in animals are not considered relevant to humans., Not a carcinogen., Based on available data, the classification criteria are not met.

Ethylbenzene:

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

Material	GHS/CLP Carcinogenicity Classification
Xylene, mixed isomers	No carcinogenicity classification.
Toluene	No carcinogenicity classification.
Naphtha (petroleum), hydrotreated light	No carcinogenicity classification.
Ethylbenzene	No carcinogenicity classification.

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

Reproductive toxicity

Components:

Xylene, mixed isomers:

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 414
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.

Toluene:

Species: Rat
Sex: male and female
Application Route: Inhalation

Method: OECD Test Guideline 416
Remarks: Based on available data, the classification criteria are not met.

Species: Rat, female
Application Route: Inhalation
Method: Other guideline method.
Remarks: Suspected of damaging the unborn child.

Reproductive toxicity - Assessment : This product does not meet the criteria for classification in categories 1A/1B.

Naphtha (petroleum), hydrotreated light:

Remarks: Suspected of damaging fertility or the unborn child., Causes foetotoxicity in animals at doses which are maternally toxic., Affects reproductive system in animals at doses which produce other toxic effects.

Ethylbenzene:

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

STOT - single exposure

Components:

Xylene, mixed isomers:
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.

Toluene:

Exposure routes: Inhalation
Target Organs: Central nervous system
Remarks: May cause drowsiness or dizziness., Vapours may cause drowsiness and dizziness., Inhalation of vapours or mists may cause irritation to the respiratory system.

Naphtha (petroleum), hydrotreated light:
Remarks: May cause drowsiness and dizziness.

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

STOT - repeated exposure

Components:

Xylene, mixed isomers:
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.

Toluene:
Exposure routes: Inhalation
Target Organs: Central nervous system
Remarks: May cause damage to organs or organ systems through prolonged or repeated exposure., May cause damage to central nervous system, respiratory system, visual system, and auditory system through prolonged or repeated exposure., Effects were seen at high doses only., Visual system: may cause decreased color perception. , These subtle changes have not been found to lead to functional colour vision deficits., 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., Exposure to very high concentrations of similar materials has been associated with irregular heart rhythms and cardiac arrest., Abuse of vapours has been associated with organ damage and death.

Naphtha (petroleum), hydrotreated light:
Remarks: Central nervous system: repeated exposure affects the nervous system., Peripheral nervous system: causes peripheral neuropathy which can be potentiated by ketones., Kidney: caused kidney effects in male rats which are not considered relevant to humans

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

Components:

Xylene, mixed isomers:

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.

Toluene:

Rat, male and female:
Application Route: Oral
Method: Test(s) equivalent or similar to Directive 67/548/EEC, Annex V, B.26
Target Organs: No specific target organs noted

Rat, male and female:
Application Route: Inhalation
Test atmosphere: vapour
Method: Test(s) equivalent or similar to OECD Test Guideline 453
Target Organs: Central nervous system

Aspiration toxicity

Components:
Xylene, mixed isomers:
Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.

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

Naphtha (petroleum), hydrotreated light:
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

Components:
Xylene, mixed isomers:
Remarks: Classifications by other authorities under varying regulatory frameworks may exist.

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

Naphtha (petroleum), hydrotreated light:
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.

Ecotoxicity

Components:
Xylene, mixed isomers :

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 <= 10 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

Toluene :

Toxicity to fish (Acute toxicity) : LC50 (Oncorhynchus kisutch (coho salmon)): 4,02 mg/l
Exposure time: 96 h
Method: Literature data.
Remarks: Toxic
LC/EC/IC50 >1 - <=10 mg/l

Toxicity to crustacean (Acute toxicity) :

LC50 (Ceriodaphnia dubia (water flea)): 3,78 mg/l
Exposure time: 48 h
Method: Other guideline method.
Remarks: Toxic
LC/EC/IC50 >1 - <=10 mg/l

Toxicity to algae/aquatic plants (Acute toxicity) : EC50 (Chlorella vulgaris (Fresh water algae)): 134 mg/l
Exposure time: 3 h
Method: Literature data.
Remarks: Practically non toxic:
LC/EC/IC50 > 100 mg/l

Toxicity to microorganisms (Acute toxicity) : EC50 (Nitrosomonas): 84 mg/l
Exposure time: 24 h
Method: Literature data.
Remarks: Harmful
LL/EL/IL50 10-100 mg/l

Toxicity to fish (Chronic toxicity) : NOEC: 1,4 mg/l
Exposure time: 40 d
Species: Oncorhynchus kisutch (coho salmon)
Method: Literature data.
Remarks: NOEC/NOEL > 1.0 - <= 10 mg/l

Toxicity to crustacean(Chronic toxicity) : NOEC: 0,74 mg/l
Exposure time: 7 d
Species: Ceriodaphnia dubia (Water flea)
Method: Other guideline method.
Remarks: NOEC/NOEL > 0.1 - <=1.0 mg/l

Naphtha (petroleum), hydrotreated light :

Toxicity to fish (Acute toxicity)	:	Remarks: no data available
Toxicity to crustacean (Acute toxicity)	:	Remarks: Toxic LL/EL/IL50 > 1 <= 10 mg/l
Toxicity to algae/aquatic plants (Acute toxicity)	:	Remarks: Harmful LL/EL/IL50 >10 <= 100 mg/l
Toxicity to microorganisms (Acute toxicity)	:	Remarks: Data not available
Toxicity to fish (Chronic toxicity)	:	Remarks: Data not available
Toxicity to crustacean(Chronic toxicity)	:	Remarks: Data not available

Ethylbenzene :

Toxicity to fish (Acute toxicity)	:	Remarks: Toxic LC/EC/IC50 >1 - <=10 mg/l
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

Components:

Xylene, mixed isomers :

Biodegradability	:	Biodegradation: 87,8 % Exposure time: 28 d Method: Information given is based on data obtained from similar substances. Remarks: Readily biodegradable.

Toluene :

Biodegradability	:	Biodegradation: 81 % Exposure time: 5 d Method: ASTM D1252-67 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 340ºC (645ºF) and (b) at least 95% of which, by volume, distils at a temperature of 370ºC (700ºF) when tested by the ASTM Method D-86/78 or any subsequent revision thereof."

Naphtha (petroleum), hydrotreated light :

Biodegradability : Remarks: Readily biodegradable.
Oxidises rapidly by photo-chemical reactions in air.

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 340ºC (645ºF) and (b) at least 95% of which, by volume, distils at a temperature of 370ºC (700ºF) when tested by the ASTM Method D-86/78 or any subsequent revision thereof."

Bioaccumulative potential

Product:

Partition coefficient: n-octanol/water : log Pow: 2,7 - 5,7

Components:

Xylene, mixed isomers :

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 : log Pow: 3,16Method: Literature data.

Toluene :

Bioaccumulation : Remarks: Does not bioaccumulate significantly.

Naphtha (petroleum), hydrotreated light :

Bioaccumulation : Remarks: Has the potential to bioaccumulate.

Ethylbenzene :

Bioaccumulation : Remarks: Does not bioaccumulate significantly.

Mobility in soil

Components:

Xylene, mixed isomers :

Mobility : Remarks: Floats on water., If it enters soil, it will adsorb to soil particles and will not be mobile.

Toluene :

Mobility : Remarks: Floats on water., If the product enters soil, one or more constituents will or may be mobile and may contaminate groundwater.

Naphtha (petroleum), hydrotreated light :

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

Components:
Xylene, mixed isomers :

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.

Toluene :

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.

Naphtha (petroleum), hydrotreated light :

Additional ecological information	:	Does not have ozone depletion potential.

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

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	:	1268
Proper shipping name	:	PETROLEUM PRODUCTS, N.O.S.
Class	:	3
Packing group	:	II
Labels	:	3
Hazard Identification Number	:	33
Environmentally hazardous	:	yes

IATA-DGR

UN/ID No.	:	UN 1268
Proper shipping name	:	PETROLEUM PRODUCTS, N.O.S.
Class	:	3
Packing group	:	II
Labels	:	3

IMDG-Code

UN number	:	UN 1268
Proper shipping name	:	PETROLEUM PRODUCTS, N.O.S. (Naphtha (petroleum), hydrotreated light)
Class	:	3
Packing group	:	II
Labels	:	3
Marine pollutant	:	yes

Maritime transport in bulk according to IMO instruments

Pollution category	:	Data not available
Ship type	:	Data not available
Product name	:	Data not available

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.

15. REGULATORY INFORMATION

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

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
NZIoC	:	Listed
PICCS	:	Listed
TCSI	:	Listed
TSCA	:	Listed

16. OTHER INFORMATION

Full text of H-Statements

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
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.
H336	May cause drowsiness or dizziness.
H361	Suspected of damaging fertility or the unborn child.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
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
Repr.	Reproductive toxicity
Skin Irrit.	Skin irritation
STOT RE	Specific target organ toxicity - repeated exposure
STOT SE	Specific target organ toxicity - single exposure

Abbreviations and Acronyms : The standard abbreviations and acronyms used in this document can be looked up in reference literature (e.g. scientific dictionaries) and/or websites.

SDS Regulation : Regulation 1907/2006/EC

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 quoted 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).

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.