

Material Safety Data Sheet

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

Material Name : **ShellSol T**
Uses : Industrial Solvent.
Product Code : Q7412

Manufacturer/Supplier : **Shell Chemicals Europe B.V.**
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3009 AP Rotterdam
Netherlands

Local Contact : Shell Chemicals UK
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Other Information : ShellSol is a trademark owned by Shell Trademark Management B.V. and Shell Brands Inc. and used by affiliates of Royal Dutch Shell plc.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Material Formal Name : Naphtha (petroleum), heavy alkylate
CAS No. : 64741-65-7
INDEX No. : 649-275-00-4
EINECS No. : 265-067-2

3. HAZARDS IDENTIFICATION

Health Hazards : May cause moderate irritation to skin. Repeated exposure may cause skin dryness or cracking. Harmful: may cause lung damage if swallowed.

Signs and Symptoms : Defatting dermatitis signs and symptoms may include a burning sensation and/or a dried/cracked appearance. Skin irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blisters. Other signs and symptoms of central nervous system (CNS) depression may include headache, nausea, and lack of coordination. If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever.

Safety Hazards : Combustible liquid. In use, may form flammable/explosive vapour-air mixture. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire.

Environmental Hazards : May cause long-term adverse effects in the aquatic environment.

Material Safety Data SheetEffective Date 16.02.2007
according to EC directive 2001/58/EC

4. FIRST AID MEASURES

Inhalation	: Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment.
Skin Contact	: Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available.
Eye Contact	: Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.
Ingestion	: 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.
Advice to Physician	: Causes central nervous system depression. Dermatitis may result from prolonged or repeated exposure. Potential for chemical pneumonitis. Consider: gastric lavage with protected airway, administration of activated charcoal. Call a doctor or poison control center for guidance.

5. FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

Specific Hazards	: Carbon monoxide may be evolved if incomplete combustion occurs. Will float and can be reignited on surface water. The vapour is heavier than air, spreads along the ground and distant ignition is possible.
Extinguishing Media	: Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only. Do not discharge extinguishing waters into the aquatic environment.
Unsuitable Extinguishing Media	: Do not use water in a jet.
Protective Equipment for Firefighters	: Wear full protective clothing and self-contained breathing apparatus.
Additional Advice	: Keep adjacent containers cool by spraying with water.

6. ACCIDENTAL RELEASE MEASURES

Observe all relevant local and international regulations.

Protective measures	: Avoid contact with spilled or released material. Immediately remove all contaminated clothing. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. For guidance on disposal of spilled material see Chapter 13 of this Material Safety Data Sheet. Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment (of product and fire fighting water) 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
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Material Safety Data Sheet

according to EC directive 2001/58/EC

Clean Up Methods

equipment.
: For small liquid spills (< 1 drum), transfer by mechanical means to a labelled, 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.

Additional Advice

: See Chapter 13 for information on disposal. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.

7. HANDLING AND STORAGE**General Precautions**

: Avoid breathing vapours or contact with material. Only use in well ventilated areas. Wash thoroughly after handling. On guidance on selection of personal protective equipment see Chapter 8 of this Material 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.

Handling

: Avoid contact with skin, eyes, and clothing. Handle and open container with care in a well-ventilated area. Ventilate workplace in such a way that the Occupational Exposure Limit (OEL) is not exceeded. Do not empty into drains. Avoid handling above its flashpoint otherwise the product will form flammable/explosive vapour-air mixtures

Storage

: Must be stored in a diked (bunded) area. Bulk storage tanks should be diked (bunded). Keep away from flammables, oxidizing agents, and corrosives. Storage Temperature: Ambient.

Product Transfer

: Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire. If positive displacement pumps are used, these must be fitted with a non-integral pressure relief valve.

Recommended Materials

: For containers, or container linings use mild steel, stainless steel. For container paints, use epoxy paint, zinc silicate paint.

**Unsuitable Materials
Container Advice**

: Avoid prolonged contact with natural, butyl or nitrile rubbers.
: Containers, even those that have been emptied, can contain explosive vapours. Do not cut, drill, grind, weld or perform similar operations on or near containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Occupational Exposure Limits**

Material Safety Data Sheet

according to EC directive 2001/58/EC

UK Workplace Exposure Limits

In the absence of occupational exposure standards for this product, it is recommended that the following are adopted.

Material	Source	Type	ppm	mg/m3	Notation
RCP Isoparaffinic solvents 180 - 220	UK SIA	TWA (8 h)	150 ppm	1,000 mg/m3	

Additional Information

: Adequate ventilation to control airborne concentrations below the exposure guidelines/limits.

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 suitable, select an appropriate combination of mask and filter. Select a filter suitable for organic gases and vapours [boiling point >65 °C (149 °F)] meeting EN141. Where air-filtering respirators are unsuitable (e.g., airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus.

Hand Protection

: Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739, AS/NZS:2161) made from the following materials may provide suitable chemical protection:
 Longer term protection: Nitrile rubber gloves
 Incidental contact/Splash protection: PVC or neoprene rubber gloves
 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

: Monogoggles (EN166)
 Chemical splash goggles (chemical monogoggles).

Protective Clothing

: Chemical resistant gloves/gauntlets, boots, and apron. Skin protection not ordinarily required beyond standard issue work clothes.

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. Examples of sources of recommended air monitoring methods are given below or contact 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/nmam/nmammenu.html> Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods <http://www.osha-slc.gov/dts/sltc/methods/toc.html> Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances <http://www.hsl.gov.uk/search.htm> Berufsgenossenschaftliches Institut für Arbeitssicherheit (BIA),

Material Safety Data Sheet

according to EC directive 2001/58/EC

Germany <http://www.hvbg.de/d/bia/pub/grl/grle.htm> L'Institut
National de Recherche et de Sécurité, (INRS), France
<http://www.inrs.fr/indexnossdoss.html>

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Colourless. Liquid.
Odour	: Paraffinic.
pH	: Not applicable.
Boiling point	: Typical 187 - 213 °C / 369 - 415 °F
Pour point	: < -30 °C / -22 °F
Flash point	: Typical 60 °C / 140 °F (ASTM D-93 / PMCC)
Explosion / Flammability limits in air	: 0.6 - 6 %(V)
Auto-ignition temperature	: 430 °C / 806 °F (ASTM E-659)
Vapour pressure	: Typical 100 Pa at 20 °C / 68 °F Typical 40 Pa at 0 °C / 32 °F Typical 600 Pa at 50 °C / 122 °F
Density	: Typical 761 kg/m ³ at 15 °C / 59 °F (ASTM D-4052)
Water solubility	: Insoluble.
Solubility in other solvents	: Hydrocarbon solvent(s) Miscible.
n-octanol/water partition coefficient (log Pow)	: 6.7 - 7.2
Kinematic viscosity	: Typical 1.85 mm ² /s at 25 °C / 77 °F
Electrical conductivity	: < 0.15 pS/m at 20 °C / 68 °F (ASTM D-4308)
Coefficient of expansion	: Typical 0.0008 / °C
Dielectric constant	: Typical 2 at 20 °C / 68 °F
Refractive index	: Typical 1.424 at 20 °C / 68 °F (ASTM D-1218)
Reaction with water	: Not applicable.
Specific heat	: Typical 2 kJ/kg °C
Saturated Vapour concentration (in air)	: 8 g/m ³ at 20 °C / 68 °F (estimated value(s))
Thermal conductivity	: Typical 0.13 W/m °C
Volatile organic carbon content	: 85 % (EC/1999/13)
Evaporation rate (nBuAc=1)	: 110 (DIN 53170, di-ethyl ether=1) 0.09 (ASTM D 3539, nBuAc=1)
Surface tension	: Typical 23.5 mN/m at 20 °C / 68 °F (ASTM D-971)
Molecular weight	: 172 g/mol
Hygroscopicity	: Negligible.

10. STABILITY AND REACTIVITY

Stability	: Stable under normal conditions of use.
Conditions to Avoid	: Avoid heat, sparks, open flames and other ignition sources.
Materials to Avoid	: Strong oxidising agents.
Hazardous Decomposition Products	: Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases, including carbon monoxide, carbon dioxide and other organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

Material Safety Data Sheet

11. TOXICOLOGICAL INFORMATION

Basis for Assessment	: Information given is based on product testing, and/or similar products, and/or components.
Acute Oral Toxicity	: Low toxicity: LD50 >2000 mg/kg , Rat Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.
Acute Dermal Toxicity	: Low toxicity: LD50 >2000 mg/kg , Rat
Acute Inhalation Toxicity	: Low toxicity: LC50 greater than near-saturated vapour concentration. / 4 hours, Rat
Skin Irritation	: May cause moderate skin irritation (but insufficient to classify). Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis.
Eye Irritation	: Essentially non-irritating to eyes.
Respiratory Irritation	: Not expected to be a respiratory irritant.
Sensitisation	: Not a skin sensitiser.
Repeated Dose Toxicity	: Kidney: caused kidney effects in male rats which are not considered relevant to humans
Mutagenicity	: Not expected to be mutagenic.
Carcinogenicity	: Not expected to be carcinogenic.
Reproductive and Developmental Toxicity	: Not expected to be a developmental toxicant.
	Not expected to impair fertility.

12. ECOLOGICAL INFORMATION

Acute Toxicity	
Fish	: Low toxicity: LC/EC/IC50 > 1000 mg/l
Aquatic Invertebrates	: Low toxicity: LC/EC/IC50 > 1000 mg/l
Algae	: Low toxicity: LC/EC/IC50 > 1000 mg/l
Microorganisms	: Expected to be not toxic at limit of water solubility.
Mobility	: Floats on water. Adsorbs to soil and has low mobility.
Persistence/degradability	: Not inherently biodegradable. Oxidises rapidly by photo-chemical reactions in air.
Bioaccumulation	: Has the potential to bioaccumulate.

13. DISPOSAL CONSIDERATIONS

Material Disposal	: 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. Do not dispose into the environment, in drains or in water courses. Waste product should not be allowed to contaminate soil or water.
Container Disposal	: Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard if heated above the flash point. Do not puncture, cut or weld uncleared drums. Send to drum recoverer or metal reclaimer.

Material Safety Data Sheet**Local Legislation**

: 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.

14. TRANSPORT INFORMATION**ADR**

Class	:	3
Packing group	:	III
Classification code	:	F1
Hazard identification no.	:	30
UN No.	:	1268
Danger label (primary risk)	:	3
Proper shipping name	:	PETROLEUM DISTILLATES, N.O.S. ()

RID

Class	:	3
Packing group	:	III
Classification code	:	F1
Hazard identification no.	:	30
UN No.	:	1268
Danger label (primary risk)	:	3
Proper shipping name	:	PETROLEUM DISTILLATES, N.O.S. ()

IMDG

Identification number	UN 1268
Proper shipping name	PETROLEUM DISTILLATES, N.O.S.
Class / Division	3
Packing group	III
Marine pollutant:	No

IATA (Country variations may apply)

UN No.	:	1268
Proper shipping name	:	Petroleum distillates, n.o.s.
Class / Division	:	3
Packing group	:	III

15. REGULATORY INFORMATION

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

EC Label Name	:	NAPHTHA (PETROLEUM), HEAVY ALKYLATE
EC label/EC Number	:	265-067-2
EC Classification	:	Harmful.
EC Annex I Number	:	649-275-00-4
EC Symbols	:	Xn Harmful.
EC Risk Phrases	:	R65 Harmful: may cause lung damage if swallowed.

Material Safety Data Sheet

according to EC directive 2001/58/EC

EC Safety Phrases	:	R66 Repeated exposure may cause skin dryness or cracking. R53 May cause long-term adverse effects in the aquatic environment. S23 Do not breathe vapour. S24 Avoid contact with skin. S62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.
DSL	:	Listed.
INV (CN)	:	Listed.
TSCA	:	Listed.
EINECS	:	Listed. 265-067-2
KECI (KR)	:	Listed. KE-18190
PICCS (PH)	:	Listed.
National Legislation		
OE HPV	:	Listed.
Other Information	:	94/69/EC (21st ATP). The benzene content of this product is less than 0.1%. Nota P applies. Classification and labelling as carcinogen (R45) is not required.

16. OTHER INFORMATION**R-phrase(s)**

R53	May cause long-term adverse effects in the aquatic environment.
R65	Harmful: may cause lung damage if swallowed.
R66	Repeated exposure may cause skin dryness or cracking.

MSDS Version Number	:	1.7
MSDS Effective Date	:	16.02.2007
MSDS Revisions	:	A vertical bar () in the left margin indicates an amendment from the previous version.
MSDS Regulation	:	The content and format of this safety data sheet is in accordance with Commission Directive 2001/58/EC of 27 July 2001, amending for the second time Commission Directive 91/155/EEC.
Uses and Restrictions	:	Industrial Solvent.
MSDS Distribution	:	The information in this document should be made available to all who may handle the product
Disclaimer	:	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.