

**Safety Data Sheet**

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**1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1 Product Identifier**

**Material Name** : **CARADOL SP50-04**  
**Product Code** : U318A  
**Other Identifier** : Polyol

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

**Product use** : Use for the manufacture of polyurethane products.  
**Uses Advised Against** : Advice in this document relates only to product as originally supplied. Other derivative chemicals will have different properties and hazards. Advice should be sought on their safe handling and use.

**1.3 Details of the supplier of the substance or mixture**

**Manufacturer/Supplier** : **Shell Chemicals Europe B.V.**  
PO Box 8610  
3009 AP Rotterdam  
Netherlands

**Local Contact** : Shell Chemicals UK  
**Telephone** : +31 (0)10231 7425  
**Fax** : +31 (0)10231 7115  
**Email contact for MSDS** : sccmsds@shell.com

**1.4 Emergency Telephone Number**

: +44 (0) 1235 239 670

**Other Information** : CARADOL is a trademark owned by Shell Trademark Management B.V. and Shell Brands Inc. and used by affiliates of Royal Dutch Shell plc. This product is a Polymer which is exempt from the obligation to register under REACH in accordance with Article II, Section 9.

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**2. HAZARDS IDENTIFICATION****2.1 Classification of substance or mixture**

Regulation (EC) No 1272/2008 (CLP)	
Hazard Class & Category	Hazard statement
Not classified	None

**2.2 Label Elements**

**Safety Data Sheet****Labeling according to Regulation (EC) No 1272/2008**

**Symbol(s)** : No symbol

**CLP Hazard statements** : PHYSICAL HAZARDS:  
Not classified as a physical hazard under CLP criteria.  
HEALTH HAZARDS:  
Not classified as a health hazard according to CLP criteria.  
ENVIRONMENTAL HAZARDS:  
Not classified as environmental hazard according to CLP criteria.

**EC Classification** : Not classified as dangerous under EC criteria.

**2.3 Other Hazards**

**Health Hazards** : Not classified as dangerous under EC criteria.  
**Safety Hazards** : Not classified as flammable but will burn.

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**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**3.1 Substance**  
**Synonyms** : Polyol

**3.2 Mixtures**

**Preparation Description** : Suspension of a solid polymeric material in a polyether polyol.

**Hazardous Components****Classification of components according to Regulation (EC) No 1272/2008**

Chemical Name	CAS No.	EINECS	REACH Registration No.	Conc.
Polyoxyalkylene Triol	9082-00-2			90.00%
Polyurethane	66991-59-1			10.00%

Chemical Name	Hazard Class & Category	Hazard statement
Polyoxyalkylene Triol	None, None;	None,
Polyurethane	None, None;	None,

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**4. FIRST AID MEASURES****4.1 Description of 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** : Wash out mouth with water and obtain medical attention.
- 4.2 Most important symptoms/effects, acute & delayed** : Data not available.

- 4.3 Indication of immediate medical attention and special treatment needed** : Treat symptomatically.

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**5. FIRE FIGHTING MEASURES**

Clear fire area of all non-emergency personnel.

- 5.1 Extinguishing Media** : Large fires should only be fought by properly trained fire fighters. Alcohol-resistant 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.
- 5.2 Special hazards arising from substance or mixture** : Will only burn if enveloped in a pre-existing fire. Hazardous combustion products may include: Carbon dioxide. Carbon monoxide. Unidentified organic and inorganic compounds. Toxic products.
- 5.3 Advice for fire-fighters** : Wear full protective clothing and self-contained breathing apparatus.
- Additional Information** : All storage areas should be provided with adequate fire fighting facilities. Keep adjacent containers cool by spraying with water.

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**6. ACCIDENTAL RELEASE MEASURES**

Observe all relevant local and international regulations. Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. See Chapter 13 for information on disposal.

- 6.1 Personal Precautions, Protective Equipment and Emergency Procedures** : Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. Avoid inhaling vapour and/or mists. Avoid contact with the skin.
- 6.2 Environmental Precautions** : Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers. Use appropriate containment to avoid environmental contamination. Ventilate contaminated area thoroughly.

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- 6.3 Methods and Material for Containment and Clean Up** : 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.
- 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.
- Additional Advice** : Proper disposal should be evaluated based on regulatory status of this material (refer to Section 13), potential contamination from subsequent use and spillage, and regulations governing disposal in the local area.

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**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. For comprehensive advice on handling, product transfer, storage and tank cleaning refer to the product supplier.
- 7.1 Precautions for Safe Handling** : In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material. Use local exhaust extraction over processing area. Avoid unintentional contact with isocyanates to prevent uncontrolled polymerisation. Avoid contact with skin, eyes, and clothing. Air-dry contaminated clothing in a well-ventilated area before laundering. Do not empty into drains. Handling Temperature: Ambient. When handling product in drums, safety footwear should be worn and proper handling equipment should be used.
- 7.2 Conditions for safe storage, including any incompatibilities** : Prevent all contact with water and with moist atmosphere. Tanks must be clean, dry and rust-free. Prevent ingress of water. Must be stored in a diked (bunded) well-ventilated area, away from sunlight, ignition sources and other sources of heat. Nitrogen blanket recommended for large tanks (capacity 100 m3 or higher). Drums should be stacked to a maximum of 3 high. Maximum storage time: 12 months. Storage Temperature: Ambient. Storage should be handled at temperatures such that viscosities are less than 500 cSt; typically at 25-50 °C. Tanks should be fitted with heating coils in areas where the ambient temperatures are below the recommended product handling temperatures. Heating coil skin temperatures should not exceed 100 °C.
- 7.3 Specific End Uses Additional Information** : Not applicable.
- : Ensure that all local regulations regarding handling and storage facilities are followed. 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.
- Product Transfer** : Lines should be purged with nitrogen before and after product transfer. Keep containers closed when not in use.

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**Unsuitable Materials** : Copper. Copper alloys.

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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

If the American Conference of Governmental Industrial Hygienists (ACGIH) value is provided on this document, it is provided for information only.

**8.1 Control Parameters****Occupational Exposure Limits**

UK Workplace Exposure Limits  
None established.

**Additional Information** : Wash hands before eating, drinking, smoking and using the toilet. Launder contaminated clothing before re-use.

**8.2 Exposure Controls**

**General Information** : Exhaust emission systems should be designed in accordance with local conditions; the air should always be moved away from the source of vapour generation and the person working at this point. Adequate ventilation to control airborne concentrations.

**Occupational Exposure Controls**

**Personal Protective Equipment** : Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

**Eye Protection** : Chemical splash goggles (chemical monogoggles). Approved to EU Standard EN166, AS/NZS:1337.

**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: Incidental contact/Splash protection: PVC. Neoprene rubber. Nitrile rubber. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Thin disposable gloves should be avoided for long term use. When worn, use once and dispose.  
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.

**Body protection** : Chemical and cold resistant gloves/gauntlets, boots, and apron.

**Respiratory Protection** : No respiratory protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material.

**Monitoring Methods** : Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to

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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/publications/mdhs.aspx>. Berufsgenossenschaftliches Institut für Arbeitssicherheit (BIA), Germany <http://www.hvbg.de/d/bia/index.html>. L'Institut National de Recherche et de Sécurité, (INRS), France [http://www.inrs.fr/securite/hygiene\\_securite\\_travail.html](http://www.inrs.fr/securite/hygiene_securite_travail.html).

**Environmental Exposure Controls**

**Environmental exposure control measures** : Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

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**9. PHYSICAL AND CHEMICAL PROPERTIES****9.1 Information on basic physical and chemical properties**

Appearance	: White. Viscous liquid.
Odour	: Odourless.
pH	: Data not available.
Boiling point	: Data not available.
Melting / freezing point	: Data not available.
Flash point	: > 140 °C / 284 °F
Explosion / Flammability limits in air	: Data not available.
Auto-ignition temperature	: Data not available.
Vapour pressure	: Data not available.
Specific gravity	: Data not available.
Density	: 1,020 kg/m <sup>3</sup> at 25 °C / 77 °F
Water solubility	: Slightly soluble.
Solubility in other solvents	: Data not available.
n-octanol/water partition coefficient (log Pow)	: Data not available.
Dynamic viscosity	: 2,500 mPa.s at 20 °C / 68 °F
Kinematic viscosity	: Data not available.
Vapour density (air=1)	: Data not available.
Evaporation rate (nBuAc=1)	: Data not available.
Decomposition temperature	: Data not available.

**9.2 Other Information**

Auto ignition temperature : Data not available.

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**10. STABILITY AND REACTIVITY**

- 10.1 Reactivity** : Not applicable.
- 10.2 Stability** : Stable. Hygroscopic. Polymerises exothermically with di-isocyanates at ambient temperatures. The reaction becomes progressively more vigorous and can be violent at higher temperatures if the miscibility of reaction partners is good or is supported by stirring or by the presence of solvents. Reacts with strong oxidising agents.
- 10.3 Possibility of Hazardous Reactions** : Data not available.
- 10.4 Conditions to Avoid** : Heat, flames, and sparks.
- 10.5 Materials to Avoid** : Avoid contact with isocyanates, copper and copper alloys, zinc, strong oxidizing agents, and water.
- 10.6 Hazardous Decomposition Products** : Unknown toxic products may be formed.

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**11. TOXICOLOGICAL INFORMATION****11.1 Information on Toxicological effects**

- Basis for Assessment** : Information given is based on product testing, and/or similar products, and/or components.
- Acute Oral Toxicity** : Not expected to be a hazard. LD50 >2000 mg/kg
- Acute Dermal Toxicity** : Not expected to be a hazard. LD50 >2000 mg/kg
- Acute Inhalation Toxicity** : Not expected to be a hazard.
- Skin Irritation** : Expected to be non-irritating to skin.
- Eye Irritation** : Expected to be non-irritating to eyes.
- Respiratory Irritation** : Not expected to be a respiratory irritant.
- Sensitisation** : Not expected to be a skin sensitiser.
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- Aspiration hazard** : Not considered an aspiration hazard.
- Mutagenicity** : Not expected to be mutagenic.
- Carcinogenicity** : Not expected to be carcinogenic.
- Reproductive and Developmental Toxicity** : Not expected to impair fertility.
- Not expected to be a developmental toxicant.
- Specific target organ toxicity - repeated exposure** : Not expected to be a hazard.

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**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.
- 12.1 Toxicity**
- Acute Toxicity**
- Fish** : Expected to have low toxicity: LC/EC/IC50 > 100 mg/l
- Aquatic Invertebrates** : Expected to have low toxicity: LC/EC/IC50 > 100 mg/l

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<b>Algae</b>	:	Expected to have low toxicity: LC/EC/IC50 > 100 mg/l
<b>Microorganisms</b>	:	Expected to have low toxicity: LC/EC/IC50 > 100 mg/l
<b>12.2 Persistence and degradability</b>	:	Expected to be not readily biodegradable.
<b>12.3 Bioaccumulative Potential</b>	:	Does not bioaccumulate significantly, MW > 1000.
<b>12.4 Mobility</b>	:	If product enters soil, one or more constituents will be mobile and may contaminate groundwater. Sinks in fresh water; may float or sink in seawater.
<b>12.5 Result of the PBT assessment</b>	:	Not applicable
<b>12.6 Other Adverse Effects</b>	:	Small particles may have physical effects on aquatic and terrestrial organisms.

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**13. DISPOSAL CONSIDERATIONS****13.1 Waste Treatment Methods**

<b>Material Disposal</b>	:	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.
<b>Container Disposal</b>	:	Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Send to drum recoverer or metal reclaimer.
<b>Local Legislation</b>	:	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.

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**14. TRANSPORT INFORMATION****ADR**

This material is not classified as dangerous under ADR regulations.

**RID**

This material is not classified as dangerous under RID regulations.

**Sea transport (IMDG Code):**

This material is not classified as dangerous under IMDG regulations.

**Air transport (IATA):**

This material is either not classified as dangerous under IATA regulations or needs to follow country specific requirements.



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**15. REGULATORY INFORMATION**

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

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Other regulatory Information****Chemical Inventory Status**

EINECS : All components listed or polymer exempt.

AICS : All components listed or polymer exempt.

**15.2 Chemical Safety Assessment** : Not applicable

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**16. OTHER INFORMATION****CLP Hazard statements**

None          None

**Recommended restrictions on use (advice against)** : Advice in this document relates only to product as originally supplied. Other derivative chemicals will have different properties and hazards. Advice should be sought on their safe handling and use.

**Additional Information** : For further information, contact your local Shell company or agent.

**MSDS Version Number** : 2.0

**MSDS Effective Date** : 28.02.2011

**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 Regulation 1907/2006/EC.

**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.