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

1.1 Product identifier

Trade name	:	CARADOL SP33-43
Product code	:	U317N
Synonyms	:	Polyol

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

Use of the Substance/Mixture	:	Use for the manufacture of polyurethane products.
Recommended restrictions on use	:	This product must not be used in applications other than those listed in Section 1 without first seeking the advice of the supplier. This product must not be used in applications other than the above without first seeking the advice of the supplier.

1.3 Details of the supplier of the safety data sheet

Company	:	**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
E-mail address of person responsible for the SDS	:	sccmsds@shell.com

1.4 Emergency telephone number

Emergency telephone number	:	+44 (0) 1235 239 670 (This telephone number is available 24 hours per day, 7 days per week) National Poison Counselling Centre (UZEM) – 114
Other information	:	CARADOL is a trademark owned by Shell Trademark Management B.V. and Shell Brands Inc. and used by affiliates of Shell plc.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification T.R. SEA No 28848

Based on available data this substance / mixture does not meet the classification criteria.

2.2 Label elements

Labelling T.R. SEA No 28848

Hazard pictograms	:	No Hazard Symbol required
Signal word	:	No signal word
Hazard statements	:	PHYSICAL HAZARDS: Not classified as a physical hazard under GHS criteria. HEALTH HAZARDS: Not classified as a health hazard under GHS criteria. ENVIRONMENTAL HAZARDS: Not classified as an environmental hazard under GHS criteria.
Precautionary statements	:	**Prevention:** No precautionary phrases. **Response:** No precautionary phrases. **Storage:** No precautionary phrases. **Disposal:** No precautionary phrases.

2.3 Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

Chemical name	CAS-No. EC-No. Registration number	T.R. SEA No 28848	Concentration (% w/w)
Polypropylene glycol	25322-69-4 500-039-8		50 - 60
Styrene-acrylonitrile polymer	57913-80-1		40 - 50

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice	:	Not expected to be a health hazard when used under normal conditions.
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.
If inhaled	:	No treatment necessary under normal conditions of use. If symptoms persist, obtain medical advice.
In case of skin contact	:	Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available. If persistent irritation occurs, obtain medical attention.
In case of eye contact	:	Flush eye with copious quantities of water. Remove contact lenses, if present and easy to do. Continue rinsing. If persistent irritation occurs, obtain medical attention.
If swallowed	:	In general no treatment is necessary unless large quantities are swallowed, however, get medical advice.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms	:	Not considered to be an inhalation hazard under normal conditions of use. Possible respiratory irritation signs and symptoms may include a temporary burning sensation of the nose and throat, coughing, and/or difficulty breathing. No specific hazards under normal use conditions. Skin irritation signs and symptoms may include a burning sensation, redness, or swelling. 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.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment	:	Call a doctor or poison control center for guidance. Treat symptomatically. Following cases of gross overexposure, investigation of liver, kidney and eye function may be advisable. Records of such incidents should be maintained for future reference.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable 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 the substance or mixture

Specific hazards during firefighting	:	Will only burn if enveloped in a pre-existing fire. Hazardous combustion products may include: Carbon dioxide Unidentified organic and inorganic compounds. Toxic gases Carbon monoxide.

5.3 Advice for firefighters

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).
Specific extinguishing methods	:	Standard procedure for chemical fires.
Further information	:	Clear fire area of all non-emergency personnel. All storage areas should be provided with adequate fire fighting facilities. Keep adjacent containers cool by spraying with water.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Observe all relevant local and international regulations. Avoid contact with skin, eyes and clothing. Avoid inhaling vapour and/or mists. Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks.

6.2 Environmental precautions

Environmental precautions : Remove all possible sources of ignition in the surrounding area.
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.

6.3 Methods and material for containment and cleaning up

Methods for cleaning 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 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.
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.

6.4 Reference to other sections

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.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical measures : 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 : 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.

Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks.

Hygiene measures : Wash hands before eating, drinking, smoking and using the toilet. Launder contaminated clothing before re-use.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Refer to section 15 for any additional specific legislation covering the packaging and storage of this product.

Other data : 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.

Storage period : 24 month(s)

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.

Packaging material : Suitable material: Stainless steel., For container paints, use epoxy paint, zinc silicate paint.
Unsuitable material: Copper., Copper alloys.

7.3 Specific end use(s)

Specific use(s) : Not applicable.

Ensure that all local regulations regarding handling and storage facilities are followed.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Biological occupational exposure limits

No biological limit allocated.

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

Exposure assessments have not been presented for the environment therefore PNEC values not required.

8.2 Exposure controls

Engineering measures

Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.
Adequate ventilation to control airborne concentrations.
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:

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

Eye protection	:	If material is handled such that it could be splashed into eyes, protective eyewear is recommended.
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: Nitrile rubber. Incidental contact/Splash protection: PVC, neoprene or nitrile rubber gloves 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. 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. 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.

Skin and body protection	:	Skin protection is not ordinarily required beyond standard work clothes. It is good practice to wear chemical resistant gloves.
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.
Protective measures	:	Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Environmental exposure controls

General advice	:	Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour. Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation. Information on accidental release measures are to be found in section 6.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	Viscous liquid.
Colour	:	white
Odour	:	characteristic
Odour Threshold	:	Data not available

pH	:	Data not available
Melting / freezing point	:	Data not available
Boiling point/boiling range	:	no data available
Flash point	:	Typical > 200 °C Method: ASTM D93 (PMCC)
Evaporation rate	:	Data not available
Flammability		
Flammability (solid, gas)	:	No, product cannot ignite due to static electricity.
Lower explosion limit and upper explosion limit / flammability limit		
Upper explosion limit	:	no data available
Lower explosion limit	:	Data not available
Vapour pressure	:	< 10 hPa
Relative vapour density	:	Not applicable
Relative density	:	no data available
Density	:	1.020 kg/m3 (25 °C) Method: ASTM D4052
Solubility(ies)		
Water solubility	:	negligible
Partition coefficient: n-octanol/water	:	log Pow: 1,1 - 4,8
Auto-ignition temperature	:	Data not available
Decomposition temperature	:	Data not available
Viscosity		
Viscosity, dynamic	:	Typical 6.000 mPa.s (20 °C) Method: ASTM D445
Viscosity, kinematic	:	Data not available
Explosive properties	:	Not applicable
Oxidizing properties	:	Data not available

9.2 Other information

Surface tension	:	Data not available
Conductivity	:	Electrical conductivity: > 10,000 pS/m, A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid, This material is not expected to be a static accumulator.
Molecular weight	:	Data not available

SECTION 10: Stability and reactivity

10.1 Reactivity

The product does not pose any further reactivity hazards in addition to those listed in the following sub-paragraph.

10.2 Chemical stability

No hazardous reaction is expected when handled and stored according to provisions
Hygroscopic.

10.3 Possibility of hazardous reactions

Hazardous reactions	:	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.

10.4 Conditions to avoid

Conditions to avoid	:	Heat, flames, and sparks. Product cannot ignite due to static electricity.

10.5 Incompatible materials

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.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Information on likely routes of exposure	:	Exposure may occur via inhalation, ingestion, skin absorption, skin or eye contact, and accidental ingestion.

Acute toxicity

Product:

Acute oral toxicity	:	LD 50: > 2.000 mg/kg Remarks: Based on available data, the classification criteria are not met.
Acute inhalation toxicity	:	Remarks: Based on available data, the classification criteria are not met.
Acute dermal toxicity	:	LD 50: > 2.000 mg/kg Remarks: Low toxicity Based on available data, the classification criteria are not met.

Components:

Polypropylene glycol:

Acute oral toxicity	:	LD 50 (Rat, male and female): > 5.000 mg/kg Method: OECD Test Guideline 401 Remarks: Based on available data, the classification criteria are not met.
Acute inhalation toxicity	:	LD50 (Rat, male and female): > 20 mg/l Exposure time: 4 h Test atmosphere: vapour Method: OECD Test Guideline 403 Remarks: Based on available data, the classification criteria are not met.
Acute dermal toxicity	:	LD 50: > 2.000 mg/kg Remarks: Low toxicity Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Product:

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

Components:

Polypropylene glycol:
Species: Rabbit
Method: Test(s) equivalent or similar to OECD Test Guideline 404
Remarks: Slightly irritating to skin.
Insufficient to classify.
Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation

Product:

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

Components:

Polypropylene glycol:
Species: Rabbit
Method: OECD Test Guideline 405
Remarks: Slightly irritating to the eye.
Insufficient to classify.
Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation

Product:

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

Components:

Polypropylene glycol:
Species: Guinea pig
Method: OECD Test Guideline 406
Remarks: Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Product:

Genotoxicity in vivo	:	Remarks: Based on available data, the classification criteria are not met.

Components:

Polypropylene glycol:

Genotoxicity in vitro	:	Method: Test(s) equivalent or similar to OECD Guideline 471 Remarks: Based on available data, the classification criteria are not met.
	:	Method: Directive 67/548/EEC, Annex V, B.10. Remarks: Based on available data, the classification criteria are not met.
Genotoxicity in vivo	:	Species: Rat Method: Directive 67/548/EEC, Annex V, B.12. Remarks: Based on available data, the classification criteria are not met.

Carcinogenicity

Product:

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

Components:

Polypropylene glycol:

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

Material	SEA Carcinogenicity Classification
Polypropylene glycol	No carcinogenicity classification.
Styrene-acrylonitrile polymer	No carcinogenicity classification.

Reproductive toxicity

Product:

Effects on fertility : Remarks: Based on available data, the classification criteria are not met.

Components:

Polypropylene glycol:

Effects on fertility : Species: Rat
Sex: male and female
Application Route: Inhalation

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

Effects on foetal development : Species: Rat, female
Application Route: Oral
Method: OECD Test Guideline 414
Remarks: Based on available data, the classification criteria are not met.

STOT - single exposure

Product:

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

Components:

Polypropylene glycol:
Exposure routes: Inhalation
Target Organs: Central nervous system
Remarks: May cause drowsiness or dizziness.
Based on available data, the classification criteria are not met.

STOT - repeated exposure

Product:

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

Components:

Polypropylene glycol:
Remarks: Based on available data, the classification criteria are not met.

Repeated dose toxicity

Components:

Polypropylene glycol:
Species: Rat, male and female
Application Route: Inhalation
Test atmosphere: Gas
Method: OECD Test Guideline 413
Target Organs: No specific target organs noted

Aspiration toxicity

Product:

Not an aspiration hazard.

Components:

Polypropylene glycol:
Not an aspiration hazard., Based on available data, the classification criteria are not met.

Further information

Product:

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

Remarks: Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

Components:

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

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish (Acute toxicity)	:	LC50 : > 100 mg/l Remarks: Based on available data, the classification criteria are not met. Practically non toxic:
Toxicity to daphnia and other aquatic invertebrates (Acute toxicity)	:	EC50 : > 100 mg/l Remarks: Based on available data, the classification criteria are not met.

Practically non toxic:

Toxicity to algae (Acute toxicity)	:	EC50 : > 100 mg/l Remarks: Practically non toxic: Based on available data, the classification criteria are not met.
Toxicity to fish (Chronic toxicity)	:	Remarks: Data not available
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	Remarks: Data not available
Toxicity to bacteria (Acute toxicity)	:	IC50 : > 100 mg/l Remarks: Based on available data, the classification criteria are not met. Practically non toxic:

Components:

Polypropylene glycol:

Toxicity to fish (Acute toxicity)	:	LC50 (Danio rerio (zebra fish)): > 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: Based on available data, the classification criteria are not met.
Toxicity to daphnia and other aquatic invertebrates (Acute toxicity)	:	EC50 (Daphnia magna (Water flea)): > 105,8 mg/l Exposure time: 48 h Remarks: Based on available data, the classification criteria are not met.
Toxicity to algae (Acute toxicity)	:	EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 202 Remarks: Based on available data, the classification criteria are not met.
Toxicity to bacteria (Acute toxicity)	:	EC50 (Activated sludge, domestic waste): > 1.000 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 Remarks: Based on available data, the classification criteria are not met.
Toxicity to fish (Chronic toxicity)	:	Remarks: Data not available
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: > 10 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211

12.2 Persistence and degradability

Product:

Biodegradability : Remarks: Readily biodegradable.

Components:

Polypropylene glycol:

Biodegradability : Biodegradation: 86,6 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: Readily biodegradable.

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Does not bioaccumulate significantly.

Components:

Polypropylene glycol:

Bioaccumulation : Remarks: Does not bioaccumulate significantly.

12.4 Mobility in soil

Product:

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

Components:

Polypropylene glycol:

Mobility : Remarks: If product enters soil, it will be highly mobile and may contaminate groundwater., Dissolves in water.

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

12.5 Results of PBT and vPvB assessment

Product:

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:

Polypropylene glycol:

Assessment : The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not considered to be PBT or vPvB..

: The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not considered to be PBT or vPvB..

12.6 Other adverse effects

Product:

Additional ecological information : Remarks: Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

Components:

Polypropylene glycol:

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : 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.

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.

Contaminated packaging : Drain container thoroughly.
After draining, vent in a safe place away from sparks and fire.
Send to drum recoverer or metal reclaimer.
Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand.

SECTION 14: Transport information

14.1 UN number

ADR : Not regulated as a dangerous good
RID : Not regulated as a dangerous good
IMDG : Not regulated as a dangerous good

IATA	:	Not regulated as a dangerous good

14.2 UN proper shipping name

ADR	:	Not regulated as a dangerous good
RID	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good
IATA	:	Not regulated as a dangerous good

14.3 Transport hazard class(es)

ADR	:	Not regulated as a dangerous good
RID	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good
IATA	:	Not regulated as a dangerous good

14.4 Packing group

ADR	:	Not regulated as a dangerous good
RID	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good
IATA	:	Not regulated as a dangerous good

14.5 Environmental hazards

ADR	:	Not regulated as a dangerous good
RID	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good

14.6 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.

14.7 Maritime transport in bulk according to IMO instruments

Pollution category	:	Y
Ship type	:	3
Product name	:	Acrylonitrile-Styrene Copolymer Dispersion in Polyether Polyol

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.

SECTION 15: Regulatory information

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

KKDIK (30105 (Bis)) - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex 17)	:	Not applicable

Other regulations	:	The regulatory information is not intended to be comprehensive. Other regulations may apply to this material. Regulations on the health and safety precautions for chemicals in the workplace. Regulations on the fire protection of buildings. Regulations on the prevention of industrial accidents and the reduction of their effects.

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
TSCA	:	Listed
TCSI	:	Listed

15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance/mixture.

SECTION 16: Other information

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; 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 x% growth rate response; 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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Prepared by

Name	:	Eren Aktas
Certified Qualification date	:	15.05.2024
Certificate number	:	TÜV/11.241.01
Expiry date		15.05.2029

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).

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.

TR / EN