Dow Chemical Company Ltd encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

**Section 1. Identification of the substance/preparation and of the company/undertaking**

1.1 Product identifiers

Product Name

POLYOX™ WSR 301

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

Identified uses


1.3 Details of the supplier of the safety data sheet

COMPANY IDENTIFICATION

Dow Chemical Company Ltd
Diamond House, Lotus Park
Kingsbury Crescent
TW18 3AG Staines, Middlesex
United Kingdom

Customer Information Number: 0203 139 4000
SDSQuestion@dow.com

1.4 EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 0031 115 694 982
Local Emergency Contact: 00 31 115 69 4982

**Section 2. Hazards Identification**

2.1 Classification of the substance or mixture

Classification - REGULATION (EC) No 1272/2008

This product is not classified as dangerous according to EC criteria.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

This product is not classified as dangerous according to EC criteria.

Additional Information

Safety data sheet available for professional users on request.
2.2 Label elements
Labelling - REGULATION (EC) No 1272/2008
This product is not classified as dangerous according to EC criteria.

2.3 Other Hazards
May form explosive dust-air mixture.

Section 3. Composition/information on ingredients

3.2 Mixture
This product is a mixture.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS-No. 25322-68-3</td>
<td>—</td>
<td>&gt;= 95.0 %</td>
<td>Poly(ethylene oxide)#</td>
<td>Not classified</td>
</tr>
<tr>
<td>EC-No.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polymer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS-No. 112945-52-5</td>
<td>—</td>
<td>&lt;= 3.0 %</td>
<td>Fumed silica (generic)#</td>
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<tr>
<td>EC-No.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>not applicable</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS-No. Not available</td>
<td>—</td>
<td>&lt;= 1.0 %</td>
<td>Calcium as mixed salts##</td>
<td>Not classified</td>
</tr>
<tr>
<td>EC-No.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not available</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS-No. / EC-No. / Index</th>
<th>Amount</th>
<th>Component</th>
<th>Classification: 67/548/EEC</th>
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<td>CAS-No. 25322-68-3</td>
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<td>Poly(ethylene oxide)#</td>
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<tr>
<td>EC-No.</td>
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<tr>
<td>Polymer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS-No. 112945-52-5</td>
<td>&lt;= 3.0 %</td>
<td>Fumed silica (generic)#</td>
<td>Not classified.</td>
</tr>
<tr>
<td>EC-No.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>not applicable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS-No. Not available</td>
<td>&lt;= 1.0 %</td>
<td>Calcium as mixed salts##</td>
<td>Not classified.</td>
</tr>
<tr>
<td>EC-No.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not available</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

# Substance(s) with an Occupational Exposure Limit.
## Voluntarily disclosed component(s).
For the full text of the H-Statements mentioned in this Section, see Section 16.

Section 4. First-aid measures

4.1 Description of first aid measures
General advice: If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: No emergency medical treatment necessary.

Skin Contact: Wash skin with plenty of water.

Eye Contact: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

Ingestion: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

4.2 Most important symptoms and effects, both acute and delayed
Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), no additional symptoms and effects are anticipated.

4.3 Indication of immediate medical attention and special treatment needed
No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

Section 5.  Fire Fighting Measures

5.1 Extinguishing Media
Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

5.2 Special hazards arising from the substance or mixture

Hazardous Combustion Products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Do not permit dust to accumulate. When suspended in air dust can pose an explosion hazard. Minimize ignition sources. If dust layers are exposed to elevated temperatures, spontaneous combustion may occur. Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, electrically bond and ground equipment and do not permit dust to accumulate. Dust can be ignited by static discharge.

5.3 Advice for firefighters
Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Hand held dry chemical or carbon dioxide extinguishers may be used for small fires. Dust explosion hazard may result from forceful application of fire extinguishing agents. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.

Special Protective Equipment for Firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

Section 6.  Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Spilled material may cause a slipping hazard. Material becomes slippery when wet. Use appropriate safety equipment. For additional
information, refer to Section 8, Exposure Controls and Personal Protection. Refer to Section 7, Handling, for additional precautionary measures.

6.2 Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

6.3 Methods and materials for containment and cleaning up: Contain spilled material if possible. Collect with vacuum equipment. Collect in suitable and properly labeled containers. Attempt to neutralize by adding materials such as Soda ash. See Section 13, Disposal Considerations, for additional information.

Section 7. Handling and Storage

7.1 Precautions for safe handling

Handling

General Handling: Avoid contact with eyes. Wash thoroughly after handling. No smoking, open flames or sources of ignition in handling and storage area. Good housekeeping and controlling of dusts are necessary for safe handling of product. Electrically bond and ground all containers, personnel and equipment before transfer or use of material. Keep away from heat, sparks and flame. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

7.2 Conditions for safe storage, including any incompatibilities

Storage
Store in accordance with good manufacturing practices. See Section 10 for more specific information.

7.3 Specific end uses
See the technical data sheet on this product for further information.

Section 8. Exposure Controls / Personal Protection

8.1 Control parameters

Exposure Limits

<table>
<thead>
<tr>
<th>Component</th>
<th>List</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poly(ethylene oxide)</td>
<td>AIHA WEEL</td>
<td>TWA Particulate.</td>
<td>10 mg/m3</td>
</tr>
<tr>
<td>Fumed silica (generic)</td>
<td>Ireland OELV</td>
<td>TWA Respirable dust.</td>
<td>2.4 mg/m3</td>
</tr>
<tr>
<td></td>
<td>Ireland OELV</td>
<td>TWA Total inhalable dust.</td>
<td>6 mg/m3</td>
</tr>
<tr>
<td></td>
<td>UK WEL</td>
<td>TWA Inhalable dust.</td>
<td>6 mg/m3</td>
</tr>
<tr>
<td></td>
<td>UK WEL</td>
<td>TWA Respirable dust.</td>
<td>2.4 mg/m3</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

Personal Protection

Eye/Face Protection: Use safety glasses (with side shields). Safety glasses (with side shields) should be consistent with EN 166 or equivalent.
Skin Protection: No precautions other than clean body-covering clothing should be needed.
Hand protection: Chemical protective gloves should not be needed when handling this material. Consistent with general hygienic practice for any material, skin contact should be minimized.

Respiratory Protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator. Use the following CE approved air-purifying respirator: Particulate filter, type P2.

Ingestion: Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

Engineering Controls
Ventilation: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations.

Section 9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td></td>
</tr>
<tr>
<td>Physical State</td>
<td>Powder</td>
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<tr>
<td>Color</td>
<td>White to off-white</td>
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<tr>
<td>Odor</td>
<td>Ammoniacal</td>
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<td>Odor Threshold</td>
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<tr>
<td>pH</td>
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<tr>
<td>Melting Point</td>
<td>No test data available</td>
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<tr>
<td>Freezing Point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling Point (760 mmHg)</td>
<td>Not applicable</td>
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<tr>
<td>Flash Point - Closed Cup</td>
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</tr>
<tr>
<td>Evaporation Rate (Butyl Acetate = 1)</td>
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<tr>
<td>Acetate = 1)</td>
<td></td>
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<tr>
<td>Flammability (solid, gas)</td>
<td>No</td>
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<tr>
<td>Flammable Limits in Air</td>
<td>Lower: No test data available</td>
</tr>
<tr>
<td></td>
<td>Upper: No test data available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
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<tr>
<td>Vapor Density (air = 1)</td>
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<tr>
<td>Specific Gravity (H2O = 1)</td>
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<tr>
<td>Solubility in water (by weight)</td>
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<td>Autoignition Temperature</td>
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<td>Decomposition</td>
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<tr>
<td>Temperature</td>
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<tr>
<td>Kinematic Viscosity</td>
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<tr>
<td>Explosive properties</td>
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</tr>
<tr>
<td>Oxidizing properties</td>
<td>no data available</td>
</tr>
</tbody>
</table>

9.2 Other information

Section 10. Stability and Reactivity

10.1 Reactivity
No dangerous reaction known under conditions of normal use.

10.2 Chemical stability
Thermally stable at typical use temperatures.
10.3 Possibility of hazardous reactions
Polymerization will not occur.

10.4 Conditions to Avoid: Avoid contact with air (oxygen). Product can oxidize at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems. Avoid static discharge. Avoid moisture. Avoid direct sunlight or ultraviolet sources.


10.6 Hazardous decomposition products
Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Carbon dioxide. Alcohols. Ethers. Hydrocarbons. Ketones. Polymer fragments.

Section 11. Toxicological Information

11.1 Information on toxicological effects

Acute Toxicity

Ingestion
Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Typical for this family of materials. Estimated. LD50, rat > 4,000 mg/kg

Aspiration hazard
Based on physical properties, not likely to be an aspiration hazard.

Dermal
Prolonged skin contact is unlikely to result in absorption of harmful amounts. Typical for this family of materials. Estimated. LD50, rabbit > 5,000 mg/kg

Inhalation
No adverse effects are anticipated from inhalation. For respiratory irritation and narcotic effects: No specific, relevant data available for assessment.
As product: The LC50 has not been determined.

Eye damage/eye irritation
May cause slight eye irritation. Corneal injury is unlikely.

Skin corrosion/irritation
Essentially nonirritating to skin.

Sensitization
Skin
Did not cause allergic skin reactions when tested in guinea pigs.

Respiratory
No relevant data found.

Repeated Dose Toxicity
Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Chronic Toxicity and Carcinogenicity
Did not cause cancer in laboratory animals.

Developmental Toxicity
For the major component(s): Did not cause birth defects or any other fetal effects in laboratory animals.

Reproductive Toxicity
In animal studies, did not interfere with reproduction.

Genetic Toxicology
In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Component Toxicology - Poly(ethylene oxide)

| Inhalation | Typical for this family of materials. No deaths occurred at this concentration. LC50, 4 h, Aerosol, rat > 3.75 mg/l |

Section 12. Ecological Information

12.1 Toxicity
Data for Component: **Poly(ethylene oxide)**

For this family of materials: Material is not classified as dangerous to aquatic organisms (LC50/EC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

Data for Component: **Fumed silica (generic)**

Based on information for a similar material: Material is not classified as dangerous to aquatic organisms (LC50/EC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

**Fish Acute & Prolonged Toxicity**

For similar material(s): LC50, Danio rerio (zebra fish), 96 h: > 100 mg/l

**Aquatic Invertebrate Acute Toxicity**

For similar material(s): EC50, Daphnia magna (Water flea), 48 h, immobilization: > 100 mg/l

### 12.2 Persistence and Degradability

Data for Component: **Poly(ethylene oxide)**

For this family of materials: Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

**OECD Biodegradation Tests:** For this family of materials:

<table>
<thead>
<tr>
<th>Biodegradation</th>
<th>Exposure Time</th>
<th>Method</th>
<th>10 Day Window</th>
</tr>
</thead>
<tbody>
<tr>
<td>48 %</td>
<td>28 d</td>
<td>OECD 301D Test</td>
<td>fail</td>
</tr>
</tbody>
</table>

Data for Component: **Fumed silica (generic)**

Biodegradation is not applicable.

### 12.3 Bioaccumulative potential

Data for Component: **Poly(ethylene oxide)**

**Bioaccumulation:** For this family of materials: No bioconcentration is expected because of the relatively high water solubility.

Data for Component: **Fumed silica (generic)**

**Bioaccumulation:** No relevant data found.

### 12.4 Mobility in soil

Data for Component: **Poly(ethylene oxide)**

**Mobility in soil:** No data available.

Data for Component: **Fumed silica (generic)**

**Mobility in soil:** Expected to be relatively immobile in soil (Koc > 5000).

### 12.5 Results of PBT and vPvB assessment

Data for Component: **Poly(ethylene oxide)**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Data for Component: **Fumed silica (generic)**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

### 12.6 Other adverse effects

Data for Component: **Poly(ethylene oxide)**

This substance is not in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer.

Data for Component: **Fumed silica (generic)**

This substance is not in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer.

### Section 13. Disposal Considerations
13.1 Waste treatment methods
Any disposal practice must be in compliance with all local and national laws and regulations. Do not dump into any sewers, on the ground, or into any body of water.

Section 14. Transport Information

ROAD & RAIL
NOT REGULATED

OCEAN
NOT REGULATED

AIR
NOT REGULATED

INLAND WATERWAYS
NOT REGULATED

Section 15. Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
European Inventory of Existing Commercial Chemical Substances (EINECS)
This product is a polymer according to the definition in Directive 92/32/EEC (7th Amendment to Directive 67/548/EEC) and all of its starting materials and intentional additives are listed in the European Inventory of Existing Commercial Chemical Substances (EINECS) or in compliance with European (EU) chemical inventory requirements.

15.2 Chemical Safety Assessment
Not applicable.

Section 16. Other Information

Hazard statement in the composition section

Revision
Identification Number: 78640 / 3005 / Issue Date 2011/12/19 / Version: 5.0
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.
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