Material Safety Data Sheet

SAFETY DATA SHEET

6/ 8/2004

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

DOW CHEMICAL COMPANY LTD
2 HEATHROW BOULEVARD
284 BATH ROAD
WEST DRAYTON
MIDDLESEX
UB7 0DQ

24 HOUR EMERGENCY RESPONSE NUMBER : +44-1553-761-251

For product information: +44-0208-917-5000

Product Name: TRITON(TM) X-100 SURFACTANT

LV70: 85735 Issue Date: Jan. 03 Ref: H1S10
Revised: June 04 (Section(s) 15)

Use of the substance/preparation
For industrial use only.

2. COMPOSITION/INFORMATION ON INGREDIENTS

			CAS	EC No
Polyethylene glycol	<3 %		025322-68-3	Polymer

Dangerous components (see section 16 for complete R-phrases):

			CAS	EC No
Polyethylene glycol octylphenyl ether	>97 %	Xn; R22, Xi; R41, R52/53	009036-19-5	Polymer

3. HAZARDS IDENTIFICATION

Harmful if swallowed. Risk of serious damage to eyes. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4. FIRST-AID MEASURES

Never give fluids or induce vomiting if patient is unconscious or is having convulsions.

Inhalation
Move person to fresh air; if effects occur, consult a physician.

Skin Contact
Remove material from skin immediately by washing with soap and plenty of water . Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse.

Eye Contact
Irrigate with flowing water immediately and continuously for 15 minutes. Consult medical personnel immediately. Do not remove contact lenses, if worn.

Ingestion
Do not induce vomiting. Call a physician and/or transport to emergency facility immediately.

Note to Physician
The decision of whether to induce vomiting or not should be made by a physician. If lavage is performed, suggest endotracheal and/or oesophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach.
If burn is present, treat as any thermal burn, after decontamination.
No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE-FIGHTING MEASURES

Extinguishing Media
For small fires, use: Carbon dioxide. Dry chemical fire extinguishers.
For large fires, use: Water fog or fine spray. Alcohol resistant foam.

Protection of Firefighters
Wear positive-pressure self-contained breathing apparatus and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves).

Specific Fire or Explosion Hazards
This material may produce a floating fire hazard. Will support combustion.

Specific Methods of Firefighting
Do not direct a solid stream of water or foam into hot, burning pools. This may cause frothing and increase fire intensity.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Wear adequate personal protective equipment, see Section 8, EXPOSURE CONTROLS/PERSONAL PROTECTION.

Environmental Precautions
Contain liquid to prevent contamination of soil, surface water or ground water.

Methods of Cleaning Up
Spills should be contained by, and covered with large quantities of sand, earth or any other readily available absorbent material which is then brushed in vigorously to assist absorption.
The mixture can then be collected into drums and removed for disposal.

7. HANDLING AND STORAGE

Handling
Avoid contact with eyes, skin and clothing. Do not eat, drink or smoke in working area. Wash thoroughly after handling. Do not handle or empty in the presence of flammable vapour. Good general ventilation should be sufficient for most conditions.

Storage
Keep container closed.
Hold bulk storage under nitrogen blanket.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines
None established.

Engineering Controls
Good general ventilation should be sufficient.

Personal Protective Equipment

- Respiratory Protection
Use a CE approved air-purifying respirator with cartridge/filter for: Organic vapours, type A (boiling point >65 deg.C).

- Skin Protection
Use protective clothing chemically resistant to this material.
Selection of specific items such as face shield, gloves, boots, apron, or full body-suit will depend on operation.
Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse or dispose of properly.

- Hand protection
Use chemical resistant gloves classified under standard EN 374:
Protective gloves against chemicals and micro-organisms.
Examples of preferred glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl chloride ("PVC" or "vinyl"). Styrene/butadiene rubber. Viton.
Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR").

When prolonged or frequently repeated contact may occur, a glove with a protection class of 2 or higher (breakthrough time greater than 30 minutes according to EN 374) is recommended.
NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all requisite workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), as well as the instructions/specifications provided by the glove supplier.

- Eye/Face Protection
Eye wash fountain should be located in immediate work area. Use chemical goggles.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: clear liquid
Colour	: light yellow
Odour	: mild
Melting point/range	: not applicable
Freezing point/range	: 6 deg.C
Boiling point/range	: >200 deg.C (1013 hPa)
pH	: 9.7 (20 deg.C)
Water solubility	: completely soluble; some compositions may form gels
Vapour pressure	: <0.01 hPa (20 deg.C)
Rel. vapour density (air=1)	: >1
Percent volatiles	: 0.0065
Specific gravity	: 1.067 (20/20 deg.C)
Molecular weight	: 624
Flash point	: 251 deg.C (ASTM D93)
Auto-ignition temp.	: not applicable
Flammability-LFL	: not determined
Flammability-UFL	: not determined

10. STABILITY AND REACTIVITY

Chemical Stability
Stable under normal storage conditions.

Conditions to Avoid
Excessive heat.

Materials to Avoid
High temperatures in the presence of strong bases. Strong acids. Strong oxidising agents. Materials which react with hydroxyl compounds.

Hazardous Decomposition Products
None under normal conditions of storage and use.

11. TOXICOLOGICAL INFORMATION

Based on actual testing or on data for similar material(s).

Acute toxicity

Ingestion
The oral LD50 for rats is >500 mg/kg. If aspirated (liquid enters the lung), may cause lung damage or even death due to chemical pneumonia.

Skin Contact
A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. The LD50 for skin absorption in rabbits is >2000 mg/kg.

Inhalation
A single prolonged (hours) exposure is not likely to cause adverse effects.

Irritation

Skin Contact
Prolonged or repeated exposure may cause skin irritation.

Eye Contact
May cause moderate to severe corneal injury with subsequent vascularisation. May cause severe iritis. May cause moderate to severe conjunctival irritation.

Mutagenicity
No relevant information found.

12. ECOLOGICAL INFORMATION

Based on actual testing or on data for similar material(s).

Degradation
Biodegradation reached in Modified OECD Screening Test (OECD Test No. 301 E) after 28 days: 90 %. Biodegradation reached in CO2 Evolution Test (Modified Sturm Test, OECD Test No. 301 B) after 28 days: 70 %.

Aquatic Toxicity
Material is toxic to aquatic organisms (LC50/EC50/IC50 between 1 and 10 mg/L in most sensitive species).

13. DISPOSAL CONSIDERATIONS

Disposal
Incinerate under controlled conditions in accordance with all local and national laws and regulations.

Contaminated packaging
Empty containers can only be disposed of when the remaining product adhering to the container walls has been removed. Hazard warning labels should be removed from the container walls.

14. TRANSPORT INFORMATION

Road & Rail
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Octylphenoxypolyethoxyethanol nonionic surfactant)
Truck/Rail ADR/RID : 9 Label : 9
Classification Code : M6
Packing Group : III
Kemler Code : 90 UN Number : 3082
Tremcard Nr. CEFIC : 90GM6-III

Sea
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Octylphenoxypolyethoxyethanol nonionic surfactant)
Sea - IMO/IMDG Class: 9 UN Nr : 3082 Label: 9
Packing Group : III EMS : -
Marine Pollutant : Y (Y/N)

Air
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Octylphenoxypolyethoxyethanol nonionic surfactant)
Air-ICAO/IATA Class : 9 UN Nr : 3082 Label: MIS
Sub Class : -
Packing Group : III Pack Instr. Passenger : 914
Pack Instr. Cargo : 914

Remarks : Sample shipment not allowed by mail.

15. REGULATORY INFORMATION

EC Classification and User Label Information
Classification according to the UK Chemicals (Hazard Information and Packaging) Regulations, CHIP.

Hazard Symbol : Xn - Harmful

Risk Phrases : Harmful if swallowed (R22).
Risk of serious damage to eyes (R41).
Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment (R52/53).

Safety Phrases : Keep container tightly closed (S7).
Avoid contact with eyes (S25).
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice (S26).
Wear eye/face protection (S39).
In case of accident or if you feel unwell, seek medical advice immediately (Show the label where possible) (S45).
This material and its container must be disposed of as hazardous waste (S60).

Chemical name: Octylphenoxypolyethoxyethanol nonionic surfactant

EINECS Status
Existing polymer according to the definition in the 7th Amendment to Directive 67/548/EEC and all starting materials and additives are listed in EINECS.

16. OTHER INFORMATION

Risk-phrases in Section 2
R22 - Harmful if swallowed.
R41 - Risk of serious damage to eyes. R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

The information herein is given in good faith and to the best of our knowledge but no warranty, express or implied, is made.