

# Material Safety Data Sheet



PAGE 1 OF 6

SAFETY DATA SHEET

11/ 3/2004

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## 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: STYROFOAM\* RTM-X

LV70: 83186

Issue Date: Aug. 01

Ref: 1340C

Revised: July 02 (Section(s) 1)

Use of the substance/preparation Thermal insulation.

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## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Extruded polystyrene foam blown with 1,1,1,2-tetrafluoroethane (HFC-134a) and ethanol and containing a halogenated flame retardant system

For components with occupational exposure limits, see Section 8, Exposure Controls/Personal Protection.

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## 3. HAZARDS IDENTIFICATION

This product is not hazardous according to EC criteria.

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## 4. FIRST-AID MEASURES

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

Skin Contact

Wash skin with plenty of water.

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## SAFETY DATA SHEET

11/ 3/2004  
STYROFOAM\* RTM-X

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**Eye Contact**

Flush eyes thoroughly with water for several minutes. Remove contact lenses after 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.

**Inhalation**

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

**Note to Physician**

Exposure may increase "myocardial irritability". Do not administer sympathomimetic drugs such as epinephrine unless absolutely necessary. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

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**5. FIRE-FIGHTING MEASURES****Extinguishing Media**

Water. Carbon dioxide. Dry chemical fire extinguishers.

**Hazardous Combustion Products**

Dense smoke is produced when product burns.

Under fire conditions polymers decompose. The smoke may contain polymer fragments of varying compositions in addition to unidentified toxic and/or irritating compounds.

Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.

Studies have shown that the products of combustion of this foam are not more acutely toxic than the products of combustion of common building materials, such as wood.

**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 Methods of Firefighting**

Apply large volume of water directly on flame or burning surface. Soak thoroughly with water to cool and prevent re-ignition.

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**6. ACCIDENTAL RELEASE MEASURES**

Recover if possible, or dispose of according to applicable regulations, see Section 13, DISPOSAL CONSIDERATIONS.

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## 7. HANDLING AND STORAGE

### Handling

WARNING: Fabrication methods which involve cutting into this product will release blowing agent remaining in the cells. Provide adequate ventilation to assure that localised concentrations in release areas are maintained below the lower flammability limit.

Certain operations such as grinding or cutting, may lead to build-up of dust which could cause a dust explosion. Provide adequate local ventilation and appropriate dust handling systems.

This product is combustible and may constitute a fire hazard if improperly used or installed. When installed, this product should be adequately protected as directed by national building regulations or instructions in the specific application brochure.

### Storage

WARNING: In order to prevent buildup of combustible vapours, do not store large quantities of this product in unventilated spaces. Transport bulk shipments of this product in ventilated vehicles.

During shipment, storage, installation and use, this material should not be exposed to flame or other ignition sources. This material contains a halogenated flame retardant additive system to inhibit accidental ignition from small fire sources.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines

1,1,1,2-Tetrafluoroethane: The UK Health and Safety Executive has established an Occupational Exposure Standard(OES) of 1000ppm 8-hour TWA.

Ethyl alcohol (Ethanol): The UK Health and Safety Executive has established an Occupational Exposure Standard(OES) of 1000ppm 8-hour TWA.

Concentrations of the blowing agents anticipated incidental to proper handling are expected to be well below those which cause acute inhalation effects and below exposure guidelines.

### Engineering Controls

Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

Gas fired recirculating air furnaces or heaters, gas heaters, etc., drawing air from areas where there may be a presence of the blowing agents emitted from this foam during storage or fabrication, can be subject to rust and corrosion problems as a result of thermal decomposition of the blowing agents to hydrogen fluoride.

## SAFETY DATA SHEET

11/ 3/2004  
STYROFOAM\* RTM-X

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Personal Protective Equipment

## - Respiratory Protection

Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, use an approved air-purifying respirator. In dusty or misty atmospheres, use an approved particulate respirator.

## - Skin Protection

No precautions other than clean body-covering clothing should be needed.

## - Eye/Face Protection

Eye protection should not be necessary. For fabrication operations safety glasses are recommended.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: rigid multicellular board
Colour	: blue
Odour	: slight alcohol
Density	: 20-70 kg/m <sup>3</sup>
Storage temperature	: -50-+75 deg.C
Shelf-life	: >100 months
Softening point/range	: >+75 deg.C
Melting point/range	: >+75 deg.C
Decomposition temp.	: +285 deg.C
Flash point	: +346 deg.C
Auto-ignition temp.	: +491 deg.C
Water solubility	: insoluble
pH	: not applicable
Flammability-LFL	: 3.5 % (ethanol)

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10. STABILITY AND REACTIVITY

## Chemical Stability

Thermally stable at typical use temperatures.

## Conditions to Avoid

Maximum use temperature: 75 deg.C.

Exposure to elevated temperatures can cause product to decompose.

Avoid direct sunlight.

## Materials to Avoid

Aromatic hydrocarbons. Higher (C5) aliphatic hydrocarbons. Esters.

Amines. Aldehydes.

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**Hazardous Decomposition Products**

Does not normally decompose. In smouldering or flaming conditions, carbon monoxide, carbon dioxide, carbon are generated. Evolution of small amounts of hydrogen bromide and hydrogen fluoride occurs when burned or heated to over 250 deg.C.

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**11. TOXICOLOGICAL INFORMATION****Skin Contact**

Essentially nonirritating to the skin.

Mechanical injury only.

Skin absorption is unlikely due to physical properties.

**Eye Contact**

Solid or dust may cause irritation or corneal injury due to mechanical action.

**Ingestion**

May cause choking or blockage of the digestive tract if swallowed.

**Inhalation**

Dust may cause irritation to upper respiratory tract (nose and throat). Fumes/vapours released during thermal operations such as hot wire cutting may cause eye and respiratory irritation. For the blowing agents: Signs and symptoms of excessive exposure may be central nervous system effects. Excessive exposure may increase sensitivity to epinephrine and increase myocardial irritability (irregular heartbeats).

**Systemic effects**

Contains components which, in humans, have been shown to cause central nervous system and liver effects. The component is ethanol.

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**12. ECOLOGICAL INFORMATION****Mobility and Bioaccumulation Potential**

There is no evidence of any significant leaching, therefore it is unlikely to contaminate ground water.

**Degradation**

Material is not biodegradable in the environment.

Exposed to intense sunlight over prolonged periods the surface of the product degrades into fine dust.

**Aquatic Toxicity**

Despite the absence of biodegradability the product should not present an environmental hazard in the water/soil compartment.

In the aquatic environment, this product should not present problems because of extremely low solubility.

## SAFETY DATA SHEET

11/ 3/2004  
STYROFOAM\* RTM-X

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**Blowing Agent**

Most of the ethanol diffuses out of the foam in the first months of the product's life.

HFC-134a remains in the foam and diffuses out only slowly, most of it degrading in the troposphere to carbon dioxide and hydrogen fluoride. HFC-134a has a stratospheric ozone depletion potential (ODP) of zero relative to CFC-12 (ODP=1).

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**13. DISPOSAL CONSIDERATIONS**

Whilst all efforts to recycle the material should be made, it should be noted however, that this material contains a specific additive (flame retardant) and therefore should not be recycled with other plastics. Disposal of packaging materials should also be carried out in a manner appropriate to the type of material.

Customers are advised to check their local legislation governing the disposal of waste materials. May be disposed of at approved landfills or preferably by incineration under approved conditions. If incinerated, it is recommended that the flue gases be treated by a scrubber before exhausting to the atmosphere.

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**14. TRANSPORT INFORMATION**

Preferred transportation by use of soft-sided trucks. Only ventilated closed containers are accepted for transportation overseas.

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**15. REGULATORY INFORMATION****EC Classification and User Label Information**

This product does not require classification according to the criteria of the Commission of the European Communities.

**EINECS Status**

All components of this product are in compliance with EINECS.

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**16. OTHER INFORMATION**

No other information.

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