



# Safety Data Sheet

Dow Chemical Company Ltd

**Product Name:** INSTA STIK(TM) MP FC Straw Adhesive 750ml

**Revision Date:** 2010/07/13

**Print Date:** 11 Mar 2011

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.

## 1. Identification of the substance/preparation and of the company/undertaking

**Product Name**

INSTA STIK(TM) MP FC Straw Adhesive 750ml

**Use of the substance/preparation**

Adhesive spray.

**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

For questions about this SDS, contact: SDSQuestion@dow.com

**EMERGENCY TELEPHONE NUMBER**

**24-Hour Emergency Contact:**

0031 115 694 982

**Local Emergency Contact:**

00 31 115 69 4982

## 2. Hazards Identification

Extremely flammable.

Limited evidence of a carcinogenic effect.

Irritating to eyes, respiratory system and skin.

May cause sensitization by inhalation and skin contact.

Harmful: danger of serious damage to health by prolonged exposure through inhalation.

May cause slight temporary corneal injury. May stain skin. Material may stick to skin causing irritation upon removal. Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs. May cause pulmonary edema (fluid in the lungs.) Asthma-like symptoms may include coughing, difficult breathing and a feeling of tightness in the chest. Occasionally, breathing difficulties may be life threatening.

## 3. Composition/information on ingredients

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Component	Amount	Classification:	CAS #	EC #
Prepolymer of MDI and polyol##	40.0 - 60.0 %	Not classified.	Confidential	Polymer
Diphenylmethane-4,4'-diisocyanate	10.0 - 20.0 %	Carc.Cat.3: R40; Xn: R20, R48/20; Xi: R36/37/38; R42/43	101-68-8	202-966-0
Methylenediphenyl diisocyanate, homopolymer	10.0 - 20.0 %	Xn: R42	39310-05-9	NLP
Tris(1-chloro-2-propyl) phosphate	5.0 - 15.0 %	Xn: R22	13674-84-5	237-158-7
Isobutane	2.0 - 6.0 %	F+: R12	75-28-5	200-857-2
Propane	1.0 - 3.0 %	F+: R12	74-98-6	200-827-9
Dimethyl ether	2.0 - 6.0 %	F+: R12	115-10-6	204-065-8
N,N'-Dimorpholinodiethylether	1.0 - 2.0 %	Xi: R36/38	6425-39-4	229-194-7

## Voluntarily disclosed component(s).

See Section 16 for full text of R-phrases.

Note: CAS 101-68-8 is an MDI isomer that is part of CAS 9016-87-9 and of CAS 26447-40-5.

#### 4. First-aid measures

**Eye Contact:** Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

**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. An MDI skin decontamination study demonstrated that cleaning very soon after exposure is important, and that a polyglycol-based skin cleanser or corn oil may be more effective than soap and water. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands.

**Inhalation:** Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

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

**Notes to Physician:** Maintain adequate ventilation and oxygenation of the patient. May cause respiratory sensitization or asthma-like symptoms. Bronchodilators, expectorants and antitussives may be of help. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral corticosteroids. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. If you are sensitized to diisocyanates, consult your physician regarding working with other respiratory irritants or sensitizers. This material is a cholinesterase inhibitor. Treat symptomatically. In case of severe acute poisoning, use antidote immediately after establishing an open airway and respiration. Atropine, only by injection, is the preferable antidote. Oximes, such as 2-PAM/protopam, may be therapeutic if used early; however, use only in conjunction with atropine. Attempt seizure control with diazepam 5-10 mg (adults) intravenous over 2-3 minutes. Repeat every 5-10 minutes as needed. Monitor for hypotension, respiratory depression, and need for intubation. Consider second agent if seizures persist after 30 mg. If seizures persist or recur administer phenobarbital 600-1200 mg (adults) intravenous diluted in 60 ml 0.9% saline given at 25-50 mg/minute. Evaluate for hypoxia, dysrhythmia, electrolyte disturbance, hypoglycemia (treat adults with dextrose 100 mg intravenous). If exposed, plasma and red blood cell cholinesterase tests may indicate significance of exposure (baseline data are useful). Exposure may increase "myocardial irritability". Do not administer sympathomimetic drugs such as epinephrine unless absolutely necessary. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

**Medical Conditions Aggravated by Exposure:** Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).

**Emergency Personnel Protection:** First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

## 5. Fire Fighting Measures

**Extinguishing Media:** Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Do not use direct water stream. Straight or direct water streams may not be effective to extinguish fire. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Water may not be effective in extinguishing fire. Do not use direct water stream. May spread fire. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Eliminate ignition sources. Move container from fire area if this is possible without hazard. Use water spray to cool fire-exposed containers and fire-affected zone until fire is out.

**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). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

**Unusual Fire and Explosion Hazards:** Contains flammable propellant. Aerosol cans exposed to fire can rupture and become flaming projectiles. Propellant release may result in a fireball. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur. Dense smoke is produced when product burns.

**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: Nitrogen oxides. Isocyanates. Hydrogen chloride. Carbon monoxide. Carbon dioxide. Hydrogen cyanide.

## 6. Accidental Release Measures

**Steps to be Taken if Material is Released or Spilled:** 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. Wash area from residues with soap and water and rinse down.

**Personal Precautions:** Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Spilled material may cause a slipping hazard.

**Environmental Precautions:** Dike to prevent contamination of ground and surface water, then transfer into closed containers. Recover if possible, or dispose of according to applicable regulations.

## 7. Handling and Storage

### Handling

**General Handling:** Keep equipment clean.

### Storage

Keep in a cool place, heat causes an increase in pressure and risk of bursting.

**Shelf life: Use within**      **Storage temperature:**  
18 Months                      15 - 30 °C

## 8. Exposure Controls / Personal Protection

### Exposure Limits

Component	List	Type	Value
Diphenylmethane-4,4'-diisocyanate	ACGIH	TWA	0.005 ppm
	UK WEL	TWA as NCO	0.02 mg/m3 SEN
	UK WEL	STEL as NCO	0.07 mg/m3 SEN
	Ireland OELV	TWA as NCO	0.02 mg/m3 SEN
	Ireland OELV	STEL as NCO	0.07 mg/m3 SEN
Diphenylmethane Diisocyanate, isomers and homologues	Ireland OELV	TWA as NCO	0.02 mg/m3 SEN
	Ireland OELV	STEL as NCO	0.07 mg/m3 SEN
	UK WEL	TWA as NCO	0.02 mg/m3 SEN
	UK WEL	STEL as NCO	0.07 mg/m3 SEN
Isobutane	ACGIH	TWA	1,000 ppm
Propane	ACGIH	TWA	1,000 ppm
	UK WEL	Asphyxiant	Included in the regulation but with no data values. See regulation for further details
Dimethyl ether	Ireland OELV	TWA	1,920 mg/m3 1,000 ppm Indicative OELV
	AIHA WEEL	TWA	1,880 mg/m3 1,000 ppm
	EU IOELV	TWA	1,920 mg/m3 1,000 ppm
	UK WEL	TWA	766 mg/m3 400 ppm
	UK WEL	STEL	958 mg/m3 500 ppm

A "SEN" notation following the exposure guideline refers to the potential to produce sensitization, as confirmed by human or animal data.

### Personal Protection

**Eye/Face Protection:** Use chemical goggles. Chemical goggles should be consistent with EN 166 or equivalent.

**Skin Protection:** Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

**Hand protection:** Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Viton. Polyvinyl chloride ("PVC" or "vinyl"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 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 relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity,

thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

**Respiratory Protection:** Atmospheric levels should be maintained below the exposure guideline. When atmospheric levels may exceed the exposure guideline, use an approved air-purifying respirator equipped with an organic vapor sorbent and a particle filter. For situations where the atmospheric levels may exceed the level for which an air-purifying respirator is effective, use a positive-pressure air-supplying respirator (air line or self-contained breathing apparatus). For emergency response or for situations where the atmospheric level is unknown, use an approved positive-pressure self-contained breathing apparatus or positive-pressure air line with auxiliary self-contained air supply. In confined or poorly ventilated areas, use an approved self-contained breathing apparatus or positive pressure air line with auxiliary self-contained air supply. Use the following CE approved air-purifying respirator: Organic vapor cartridge with a particulate pre-filter, type AP2.

**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 only with adequate ventilation. Local exhaust ventilation may be necessary for some operations. Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. Exhaust systems should be designed to move the air away from the source of vapor/aerosol generation and people working at this point. The odor and irritancy of this material are inadequate to warn of excessive exposure. Lethal concentrations may exist in areas with poor ventilation.

## 9. Physical and Chemical Properties

<b>Physical State</b>	Foam
<b>Color</b>	Yellow
<b>Odor</b>	Characteristic
<b>Flash Point - Closed Cup</b>	No test data available
<b>Flammable Limits In Air</b>	<b>Lower:</b> No test data available <b>Upper:</b> No test data available
<b>Autoignition Temperature</b>	No test data available
<b>Vapor Pressure</b>	No test data available
<b>Boiling Point (760 mmHg)</b>	No test data available.
<b>Vapor Density (air = 1)</b>	No test data available
<b>Specific Gravity (H<sub>2</sub>O = 1)</b>	No test data available
<b>Freezing Point</b>	No test data available
<b>Melting Point</b>	No test data available
<b>Solubility in water (by weight)</b>	reacts with water
<b>pH</b>	No test data available
<b>Decomposition Temperature</b>	No test data available
<b>Partition coefficient, n-octanol/water (log Pow)</b>	No data available for this product. See Section 12 for individual component data.

## 10. Stability and Reactivity

### Stability/Instability

Stable under recommended storage conditions. See Storage, Section 7. Unstable at elevated temperatures.

**Conditions to Avoid:** Avoid temperatures above 50 °C. Elevated temperatures can cause container to vent and/or rupture. Exposure to elevated temperatures can cause product to decompose.

**Incompatible Materials:** Avoid contact with: Acids. Alcohols. Amines. Ammonia. Bases. Metal compounds. Strong oxidizers. Products based on diisocyanates like TDI and MDI react with many

materials to release heat. The reaction rate increases with temperature as well as with increased contact; these reactions can become violent. Contact is increased by stirring or if the other material acts as a solvent. Products based on diisocyanates such as TDI and MDI are not soluble in water and will sink to the bottom, but react slowly at the interface. The reaction forms carbon dioxide gas and a layer of solid polyurea. Reaction with water will generate carbon dioxide and heat.

#### **Hazardous Polymerization**

Can occur. Elevated temperatures can cause hazardous polymerization.

#### **Thermal Decomposition**

Decomposition products depend upon temperature, air supply and the presence of other materials. Toxic gases are released during decomposition.

## **11. Toxicological Information**

### **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. Signs and symptoms of excessive exposure may include: May cause lacrimation (tears). Salivation. Convulsions. Tremors. Increased activity (hyperactivity).

As product. Single dose oral LD50 has not been determined.

Based on information for component(s): Estimated. LD50, Rat > 5,000 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.

As product. The dermal LD50 has not been determined.

Based on information for component(s): Estimated. LD50, Rabbit > 2,000 mg/kg

#### **Inhalation**

In confined or poorly ventilated areas, vapor can easily accumulate and can cause unconsciousness and death due to displacement of oxygen. Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs. May cause pulmonary edema (fluid in the lungs.)

Effects may be delayed. May cause central nervous system depression. Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed.

Excessive exposure may increase sensitivity to epinephrine and increase myocardial irritability (irregular heartbeats). Decreased lung function has been associated with overexposure to isocyanates.

As product. The LC50 has not been determined.

#### **Eye damage/eye irritation**

May cause eye irritation. May cause slight temporary corneal injury.

#### **Skin corrosion/irritation**

Prolonged contact may cause moderate skin irritation with local redness. Material may stick to skin causing irritation upon removal. May stain skin.

#### **Sensitization**

##### **Skin**

Skin contact may cause an allergic skin reaction. Animal studies have shown that skin contact with isocyanates may play a role in respiratory sensitization.

##### **Respiratory**

May cause allergic respiratory response. MDI concentrations below the exposure guidelines may cause allergic respiratory reactions in individuals already sensitized. Asthma-like symptoms may include coughing, difficult breathing and a feeling of tightness in the chest. Occasionally, breathing difficulties may be life threatening.

#### **Repeated Dose Toxicity**

Excessive exposure may produce organophosphate type cholinesterase inhibition. Signs and symptoms of excessive exposure may be headache, dizziness, incoordination, muscle twitching, tremors, nausea, abdominal cramps, diarrhea, sweating, pinpoint pupils, blurred vision, salivation, tearing, tightness in chest, excessive urination, convulsions. Tissue injury in the upper respiratory tract

and lungs has been observed in laboratory animals after repeated excessive exposures to MDI/polymeric MDI aerosols.

#### **Chronic Toxicity and Carcinogenicity**

Lung tumors have been observed in laboratory animals exposed to respirable aerosol droplets of MDI/Polymeric MDI (6 mg/m<sup>3</sup>) for their lifetime. Tumors occurred concurrently with respiratory irritation and lung injury. Current exposure guidelines are expected to protect against these effects reported for MDI.

#### **Developmental Toxicity**

In laboratory animals, MDI/polymeric MDI did not cause birth defects; other fetal effects occurred only at high doses which were toxic to the mother.

#### **Reproductive Toxicity**

No relevant information found.

#### **Genetic Toxicology**

Genetic toxicity data on MDI are inconclusive. MDI was weakly positive in some in vitro studies; other in vitro studies were negative. Animal mutagenicity studies were predominantly negative.

## 12. Ecological Information

### ENVIRONMENTAL FATE

Data for Component: **Prepolymer of MDI and polyol**

#### **Movement & Partitioning**

No bioconcentration is expected because of the relatively high molecular weight (MW greater than 1000).

#### **Persistence and Degradability**

Expected to degrade only slowly in the environment.

Data for Component: **Diphenylmethane-4,4'-di-isocyanate**

#### **Movement & Partitioning**

In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

#### **Persistence and Degradability**

In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.

Data for Component: **Methylenediphenyl diisocyanate, homopolymer**

#### **Movement & Partitioning**

In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

#### **Persistence and Degradability**

In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.

Data for Component: **Tris(1-chloro-2-propyl) phosphate**

#### **Movement & Partitioning**

Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Potential for mobility in soil is low (Koc between 500 and 2000).

**Henry's Law Constant (H):** < 1.35E-05 atm\*m<sup>3</sup>/mole; 25 °C Estimated.

**Partition coefficient, n-octanol/water (log Pow):** 2.59 Measured

**Partition coefficient, soil organic carbon/water (Koc):** 1,300 Estimated.

**Bioconcentration Factor (BCF):** 0.8 - 4.6; common carp (Cyprinus carpio); Measured

**Persistence and Degradability**

|| Material is expected to biodegrade only very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

**OECD Biodegradation Tests:**

Biodegradation	Exposure Time	Method
14 %	28 d	OECD 301E Test

Data for Component: Isobutane**Movement & Partitioning**

|| Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is very high (Koc between 0 and 50).

|| **Henry's Law Constant (H):** 1.19E+00 atm\*m3/mole; 25 °C Measured

|| **Partition coefficient, n-octanol/water (log Pow):** 2.76 Measured

|| **Partition coefficient, soil organic carbon/water (Koc):** 35 Estimated.

**Persistence and Degradability**

|| Biodegradation may occur under aerobic conditions (in the presence of oxygen).

Data for Component: Propane**Movement & Partitioning**

|| Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is very high (Koc between 0 and 50).

|| **Henry's Law Constant (H):** 7.07E-01 atm\*m3/mole; 25 °C Measured

|| **Partition coefficient, n-octanol/water (log Pow):** 2.36 Measured

|| **Partition coefficient, soil organic carbon/water (Koc):** 24 - 460 Estimated.

**Persistence and Degradability**

|| No relevant information found.

Data for Component: Dimethyl ether**Movement & Partitioning**

|| Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is very high (Koc between 0 and 50).

|| **Henry's Law Constant (H):** 9.78E-04 atm\*m3/mole; 25 °C Measured

|| **Partition coefficient, n-octanol/water (log Pow):** 0.10 Measured

|| **Partition coefficient, soil organic carbon/water (Koc):** 1.29 - 14 Estimated.

**Persistence and Degradability**

|| Material is expected to biodegrade only very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

**OECD Biodegradation Tests:**

Biodegradation	Exposure Time	Method
5 %	28 d	OECD 301A Test

Data for Component: N,N'-Dimorpholinodiethylether**Movement & Partitioning**

|| Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Potential for mobility in soil is very high (Koc between 0 and 50). Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

|| **Henry's Law Constant (H):** 3.79E-18 atm\*m3/mole; 25 °C Estimated.

|| **Partition coefficient, n-octanol/water (log Pow):** -1.31 Estimated.

|| **Partition coefficient, soil organic carbon/water (Koc):** 10 Estimated.

## ECOTOXICITY

Data for Component: Prepolymer of MDI and polyol

|| Material is not classified as dangerous to aquatic organisms.



Data for Component: Diphenylmethane-4,4'-di-isocyanate

|| The measured ecotoxicity is that of the hydrolyzed product, generally under conditions maximizing production of soluble species. Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

**Toxicity to Soil Dwelling Organisms**

|| LC50, Earthworm Eisenia foetida, adult, 14 d: > 1,000 mg/kg

Data for Component: Methylenediphenyl diisocyanate, homopolymer

|| The measured ecotoxicity is that of the hydrolyzed product, generally under conditions maximizing production of soluble species. Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

**Toxicity to Soil Dwelling Organisms**

|| LC50, Earthworm Eisenia foetida, adult, 14 d: > 1,000 mg/kg

Data for Component: Tris(1-chloro-2-propyl) phosphate

|| Material is harmful to aquatic organisms (LC50/EC50/IC50 between 10 and 100 mg/L in the most sensitive species).

**Fish Acute & Prolonged Toxicity**

|| LC50, bluegill (Lepomis macrochirus), 96 h: 84 mg/l

**Aquatic Invertebrate Acute Toxicity**

|| EC50, water flea Daphnia magna, 48 h, immobilization: 63 mg/l

**Aquatic Plant Toxicity**

|| EbC50, green alga Pseudokirchneriella subcapitata (formerly known as Selenastrum capricornutum), biomass growth inhibition, 96 h: 47 mg/l

**Toxicity to Micro-organisms**

|| EC50, OECD 209 Test; activated sludge, 3 h: 784 mg/l

Data for Component: Isobutane

|| Material is not classified as dangerous to aquatic organisms.

Data for Component: Propane

|| No relevant information found.

Data for Component: Dimethyl ether

|| Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

**Fish Acute & Prolonged Toxicity**

|| LC50, guppy (Poecilia reticulata), 96 h: > 4,000 mg/l

**Aquatic Invertebrate Acute Toxicity**

|| LC50, water flea Daphnia magna, 48 h: > 4,000 mg/l

Data for Component: N,N'-Dimorpholinodiethylether

|| Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

**Fish Acute & Prolonged Toxicity**

|| LC50, zebra fish (Brachydanio rerio), 96 h: > 2,150 mg/l

## 13. Disposal Considerations

Contents under pressure. Do not puncture or incinerate container. Relieve all pressure prior to disposal. Do not dump into any sewers, on the ground, or into any body of water. The generation of waste should be avoided or minimized wherever possible. Refer to manufacturer/supplier for information on recovery/recycling. Any disposal practice must be in compliance with all local and national laws and regulations.

## 14. Transport Information

### ROAD & RAIL

Proper Shipping Name: AEROSOLS, FLAMMABLE  
Hazard Class: 2.1 ID Number: UN1950

Classification: 5F  
Tremcard Number: 20G5A  
Environmental Hazard: No

### OCEAN

Proper Shipping Name: AEROSOLS, FLAMMABLE  
Hazard Class: 2.1 ID Number: UN1950  
EMS Number: F-D,S-U  
Marine pollutant.: No

### AIR

Proper Shipping Name: AEROSOLS, FLAMMABLE  
Hazard Class: 2.1 ID Number: UN1950 Cargo Packing Instruction: 203  
Passenger Packing Instruction: 203  
Environmental Hazard: No

### INLAND WATERWAYS

Proper Shipping Name: AEROSOLS, FLAMMABLE  
Hazard Class: 2.1 ID Number: UN1950  
Classification: 5F  
Tremcard Number: 20G5A  
Environmental Hazard: No

## 15. Regulatory Information

### European Inventory of Existing Commercial Chemical Substances (EINECS)

The components of this product are on the EINECS inventory or are exempt from inventory requirements.

### EC Classification and User Label Information

#### Hazard Symbol:

F+ - Extremely flammable.  
Xn - Harmful.

#### Risk Phrases :

R12 - Extremely flammable.  
R40 - Limited evidence of a carcinogenic effect.  
R36/37/38 - Irritating to eyes, respiratory system and skin.  
R42/43 - May cause sensitization by inhalation and skin contact.  
R48/20 - Harmful: danger of serious damage to health by prolonged exposure through inhalation.

#### Safety Phrases :

S1/2 - Keep locked up out of reach of children.  
S16 - Keep away from sources of ignition - no smoking.  
S23 - Do not breathe spray.  
S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.  
S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

**Contains:** Diphenylmethane-4,4'-di-isocyanate  
Methylenediphenyl diisocyanate, homopolymer

Contains isocyanates. See information supplied by the manufacturer.

Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C.  
Do not pierce or burn, even after use.  
Do not spray on a naked flame or any incandescent material.

#### - Other regulations

Persons already sensitised to diisocyanates may develop allergic reactions when using this product.  
Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product.

This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used.

## 16. Other Information

### Risk-phrases in the Composition section

R12	Extremely flammable.
R20	Harmful by inhalation.
R22	Harmful if swallowed.
R36/37/38	Irritating to eyes, respiratory system and skin.
R36/38	Irritating to eyes and skin.
R40	Limited evidence of a carcinogenic effect.
R42	May cause sensitization by inhalation.
R42/43	May cause sensitization by inhalation and skin contact.
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.

### Revision

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Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

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