

RAMSET BLAZEBRAKE FIRE RATED FOAM

Chemwatch Independent Material Safety Data Sheet
Issue Date: 30-Jul-2012
9317SP(cs)

CHEMWATCH 4790-06
Version No:2.1.1.1
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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

RAMSET BLAZEBRAKE FIRE RATED FOAM

SYNONYMS

"Product Code: FRF700"

PROPER SHIPPING NAME

AEROSOLS

PRODUCT USE

■ Application is by spray atomisation from a hand held aerosol pack.
Used according to manufacturer's directions.
Sealant

SUPPLIER

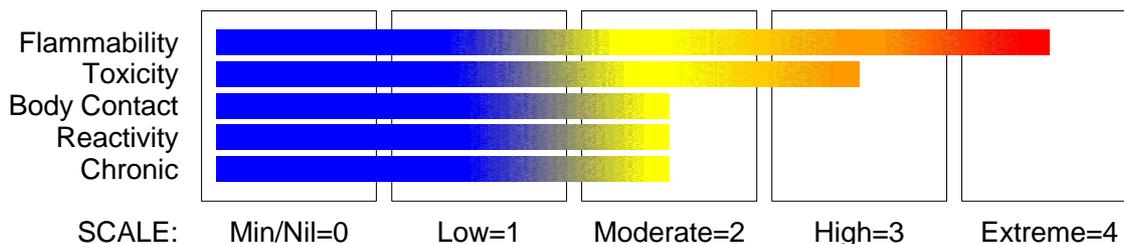
Company: ITW Australia Pty Ltd (Ramset)
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Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE

HAZARDOUS SUBSTANCE. DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.

CHEMWATCH HAZARD RATINGS



RISK

Risk Codes
R12
R20
R36/37/38
R42/43
R44

Risk Phrases

- Extremely flammable.
- Harmful by inhalation.
- Irritating to eyes, respiratory system and skin.
- May cause SENSITISATION by inhalation and skin contact.
- Risk of explosion if heated under confinement.

SAFETY

Safety Codes
S16
S23
S24
S25
S36
S37
S39
S51
S09
S401

Safety Phrases

- Keep away from sources of ignition. No smoking.
- Do not breathe gas/fumes/vapour/spray.
- Avoid contact with skin.
- Avoid contact with eyes.
- Wear suitable protective clothing.
- Wear suitable gloves.
- Wear eye/face protection.
- Use only in well ventilated areas.
- Keep container in a well ventilated place.
- To clean the floor and all objects contaminated by this material, use water

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Section 2 - HAZARDS IDENTIFICATION

	and detergent.
S07	• Keep container tightly closed.
S13	• Keep away from food, drink and animal feeding stuffs.
S26	• In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.
S46	• If swallowed, IMMEDIATELY contact Doctor or Poisons Information Centre. (show this container or label).
S60	• This material and its container must be disposed of as hazardous waste.
S63	• In case of accident by inhalation: remove casualty to fresh air and keep at rest.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
MDI oligomer	9016-87-9	25-50
dimethyl ether	115-10-6	2.5-10
flame retardant		2.5-10
iso- butane	75-28-5.	<5
propane	74-98-6	<5

Section 4 - FIRST AID MEASURES

SWALLOWED

- Not considered a normal route of entry.

EYE

- If aerosols come in contact with the eyes:
 - Immediately hold the eyelids apart and flush the eye continuously for at least 15 minutes with fresh running water.
 - Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
 - Transport to hospital or doctor without delay.
 - Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

- If solids or aerosol mists are deposited upon the skin:
 - Flush skin and hair with running water (and soap if available).
 - Remove any adhering solids with industrial skin cleansing cream.
 - DO NOT use solvents.
 - Seek medical attention in the event of irritation.

INHALED

- Following uptake by inhalation, move person to an area free from risk of further exposure. Oxygen or artificial respiration should be administered as needed.
- If aerosols, fumes or combustion products are inhaled:
 - Remove to fresh air.
 - Lay patient down. Keep warm and rested.
 - Protheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
 - If breathing is shallow or has stopped, ensure clear airway and apply resuscitation, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.

NOTES TO PHYSICIAN

- Treat symptomatically.
- For sub-chronic and chronic exposures to isocyanates:
 - This material may be a potent pulmonary sensitiser which causes bronchospasm even in patients without prior airway hyperreactivity.
 - Clinical symptoms of exposure involve mucosal irritation of respiratory and gastrointestinal tracts.
 - Conjunctival irritation, skin inflammation (erythema, pain vesiculation) and gastrointestinal disturbances occur soon after exposure.
 - Pulmonary symptoms include cough, burning, substernal pain and dyspnoea.

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Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- - Small quantities of water in contact with hot liquid may react violently with generation of a large volume of rapidly expanding hot sticky semi-solid foam.
- Presents additional hazard when fire fighting in a confined space.
- Cooling with flooding quantities of water reduces this risk.
- Water spray or fog may cause frothing and should be used in large quantities.

SMALL FIRE:

- Water spray, dry chemical or CO₂

LARGE FIRE:

- Water spray or fog.

Do not use a water jet to fight fire.

FIRE FIGHTING

- - Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water course.

FIRE/EXPLOSION HAZARD

- Combustion products include: carbon dioxide (CO₂).
 - Liquid and vapour are highly flammable.
 - Severe fire hazard when exposed to heat or flame.
 - Vapour forms an explosive mixture with air.
 - Severe explosion hazard, in the form of vapour, when exposed to flame or spark, carbon monoxide (CO), isocyanates, and minor amounts of, hydrogen cyanide, nitrogen oxides (NO_x), other pyrolysis products typical of burning organic material.
- When heated at high temperatures many isocyanates decompose rapidly generating a vapour which pressurises containers, possibly to the point of rupture. Release of toxic and/or flammable isocyanate vapours may then occur.

FIRE INCOMPATIBILITY

- - Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

HAZCHEM

2YE

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- - Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Wear protective clothing, impervious gloves and safety glasses.
- Shut off all possible sources of ignition and increase ventilation.

MAJOR SPILLS

- - Liquid Isocyanates and high isocyanate vapour concentrations will penetrate seals on self contained breathing apparatus - SCBA should be used inside encapsulating suit where this exposure may occur.
- For isocyanate spills of less than 40 litres (2 m²):
- Evacuate area from everybody not dealing with the emergency, keep them upwind and prevent further access, remove ignition sources and, if inside building, ventilate area as well as possible.
 - Notify supervision and others as necessary.
 - Put on personal protective equipment (suitable respiratory protection, face and eye protection, protective suit, gloves and impermeable boots).
 - Control source of leakage (where applicable).
 - Avoid contamination with water, alkalies and detergent solutions.
 - Material reacts with water and generates gas, pressurises containers with even drum rupture resulting.
 - DO NOT reseal container if contamination is suspected.
 - Open all containers with care.
 - DO NOT touch the spill material.
 - Remove leaking cylinders to a safe place.
 - Fit vent pipes. Release pressure under safe, controlled conditions
 - Burn issuing gas at vent pipes.
 - DO NOT exert excessive pressure on valve; DO NOT attempt to operate damaged valve.
 - Clear area of personnel and move upwind.
 - Alert Fire Brigade and tell them location and nature of hazard.
 - May be violently or explosively reactive.
 - Wear breathing apparatus plus protective gloves.

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Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- - DO NOT allow clothing wet with material to stay in contact with skin.
- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.

SUITABLE CONTAINER

- - Aerosol dispenser.
- Check that containers are clearly labelled.

STORAGE INCOMPATIBILITY

- - Avoid reaction with water, alcohols and detergent solutions.
 - Isocyanates and thioisocyanates are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, strong bases, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidisers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerisation reactions in these materials.
 - Isocyanates easily form adducts with carbodiimides, isothiocyanates, ketenes, or with substrates containing activated CC or CN bonds.
 - Some isocyanates react with water to form amines and liberate carbon dioxide. This reaction may also generate large volumes of foam and heat. Foaming in confined spaces may produce pressure in confined spaces or containers. Gas generation may pressurise drums to the point of rupture.
 - A range of exothermic decomposition energies for isocyanates is given as 20-30 kJ/mol.
 - The relationship between energy of decomposition and processing hazards has been the subject of discussion; it is suggested that values of energy released per unit of mass, rather than on a molar basis (J/g) be used in the assessment.
 - For example, in "open vessel processes" (with man-hole size openings, in an industrial setting), substances with exothermic decomposition energies below 500 J/g are unlikely to present a danger, whilst those in "closed vessel processes" (opening is a safety valve or bursting disk) present some danger where the decomposition energy exceeds 150 J/g.
- BREITHERICK: Handbook of Reactive Chemical Hazards, 4th Edition.
- Avoid any contamination of this material as it is very reactive and any contamination is potentially hazardous.

STORAGE REQUIREMENTS

- for commercial quantities of isocyanates:
 - Isocyanates should be stored in adequately bunded areas. Nothing else should be kept within the same bunding. Pre-polymers need not be segregated. Drums of isocyanates should be stored under cover, out of direct sunlight, protected from rain, protected from physical damage and well away from moisture, acids and alkalis.
 - Where isocyanates are stored at elevated temperatures to prevent solidifying, adequate controls should be installed to prevent the high temperatures and precautions against fire should be taken.
 - Where stored in tanks, the more reactive isocyanates should be blanketed with a non-reactive gas such as nitrogen and equipped with absorptive type breather valve (to prevent vapour emissions)..
 - Transfer systems for isocyanates in bulk storage should be fully enclosed and use pump or vacuum systems. Warning signs, in appropriate languages, should be posted where necessary.
- Rotate all stock to prevent ageing. Use on FIFO (First In-First Out) basis.
- Keep dry to avoid corrosion of cans. Corrosion may result in container perforation and internal pressure may eject contents of can.
 - Store in original containers in approved flammable liquid storage area.
 - DO NOT store in pits, depressions, basements or areas where vapours may be trapped.
 - No smoking, naked lights, heat or ignition sources.
 - Keep containers securely sealed. Contents under pressure.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

MATERIAL DATA

PROPANE:

RAMSET BLAZEBRAKE FIRE RATED FOAM:

- For propane
Odour Safety Factor(OSF)
OSF=0.16 (PROPANE).

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

ISO-BUTANE:

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■ For butane:

Odour Threshold Value: 2591 ppm (recognition)

Butane in common with other homologues in the straight chain saturated aliphatic hydrocarbon series is not characterised by its toxicity but by its narcosis-inducing effects at high concentrations. The TLV is based on analogy with pentane by comparing their lower explosive limits in air.

Odour Safety Factor(OSF)

OSF=0.22 (n-BUTANE).

DIMETHYL ETHER:

RAMSET BLAZEBRAKE FIRE RATED FOAM:

■ for dimethyl ether:

The no-effect-level for dimethyl ether is somewhere between 2000 ppm (rabbits) and 50,000 ppm (humans) with possible cardiac sensitisation occurring around 200,000 ppm (dogs). The AIHA has adopted a safety factor of 100 in respect to the 50,000 ppm level in its recommendation for a workplace environmental exposure level (WEEL) which is thought to protect against both narcotic and sensitising effects.

DIMETHYL ETHER:

ISO-BUTANE:

■ May act as a simple asphyxiants; these are gases which, when present in high concentrations, reduce the oxygen content in air below that required to support breathing, consciousness and life; loss of consciousness, with death by suffocation may rapidly occur in an oxygen deficient atmosphere.

CARE: Most simple asphyxiants are odourless or possess low odour and there is no warning on entry into an oxygen deficient atmosphere.

DIMETHYL ETHER:

MDI OLIGOMER:

■ Sensory irritants are chemicals that produce temporary and undesirable side-effects on the eyes, nose or throat.

Historically occupational exposure standards for these irritants have been based on observation of workers' responses to various airborne concentrations.

MDI OLIGOMER:

■ for isocyanates:

Some jurisdictions require that health surveillance be conducted on occupationally exposed workers. This should emphasise:

- demography, occupational and medical history and health advice
- completion of a standardised respiratory questionnaire
- physical examination of the respiratory system and skin
- standardised respiratory function tests such as FEV1, FVC and FEV1/FVC.

ISO-BUTANE:

Isobutane Odour Threshold Value: 1.2 ppm

PERSONAL PROTECTION

RESPIRATOR

•Type AX-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

EYE

■ - Safety glasses with side shields.

- Chemical goggles.

- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent].

HANDS/FEET

■ NOTE:

- The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.

- Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.

- Do NOT wear natural rubber (latex gloves).

- Isocyanate resistant materials include Teflon, Viton, nitrile rubber and some PVA gloves.

- Protective gloves and overalls should be worn as specified in the appropriate national standard.

- Contaminated garments should be removed promptly and should not be re-used until they have been decontaminated.

- NOTE: Natural rubber, neoprene, PVC can be affected by isocyanates.

- DO NOT use skin cream unless necessary and then use only minimum amount.

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

- Isocyanate vapour may be absorbed into skin cream and this increases hazard.
- No special equipment needed when handling small quantities.
- OTHERWISE:
- For potentially moderate exposures:
- Wear general protective gloves, eg. light weight rubber gloves.

OTHER

■ All employees working with isocyanates must be informed of the hazards from exposure to the contaminant and the precautions necessary to prevent damage to their health. They should be made aware of the need to carry out their work so that as little contamination as possible is produced, and of the importance of the proper use of all safeguards against exposure to themselves and their fellow workers.

Employees exposed to contamination hazards should be educated in the need for, and proper use of, facilities, clothing and equipment and thereby maintain a high standard of personal cleanliness.

No special equipment needed when handling small quantities.

OTHERWISE:

- Overalls.
- Skin cleansing cream.
- Eyewash unit.
- Do not spray on hot surfaces.
- The clothing worn by process operators insulated from earth may develop static charges far higher (up to 100 times) than the minimum ignition energies for various flammable gas-air mixtures. This holds true for a wide range of clothing materials including cotton.
- Avoid dangerous levels of charge by ensuring a low resistivity of the surface material worn outermost.

BRETHERRICK: Handbook of Reactive Chemical Hazards.

ENGINEERING CONTROLS

- - All processes in which isocyanates are used should be enclosed wherever possible.
 - Total enclosure, accompanied by good general ventilation, should be used to keep atmospheric concentrations below the relevant exposure standards.
 - If total enclosure of the process is not feasible, local exhaust ventilation may be necessary. Local exhaust ventilation is essential where lower molecular weight isocyanates (such as TDI or HDI) is used or where isocyanate or polyurethane is sprayed.
 - Where other isocyanates or pre-polymers are used and aerosol formation cannot occur, local exhaust ventilation may not be necessary if the atmospheric concentration can be kept below the relevant exposure standards.
- Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

■ Supplied as an aerosol pack. Contents under PRESSURE.

Coloured (according to the product specification) liquid with a characteristic odour; not miscible with water.

PHYSICAL PROPERTIES

Liquid.

Gas.

Does not mix with water.

Sinks in water.

State	Liquid	Molecular Weight	Not Applicable
Melting Range (°C)	Not Available	Viscosity	Not Available
Boiling Range (°C)	Not Available	Solubility in water (g/L)	Immiscible
Flash Point (°C)	- 97	pH (1% solution)	Not Applicable
Decomposition Temp (°C)	Not Available	pH (as supplied)	Not Applicable
Autoignition Temp (°C)	Not Applicable	Vapour Pressure (kPa)	Not Available
Upper Explosive Limit (%)	Not Available	Specific Gravity (water=1)	1.06

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Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Lower Explosive Limit (%)	Not Available	Relative Vapour Density (air=1)	Not Available
Volatile Component (%vol)	Not Available	Evaporation Rate	Not Available

Section 10 - STABILITY AND REACTIVITY

CONDITIONS CONTRIBUTING TO INSTABILITY

- - Elevated temperatures.
 - Presence of open flame.
 - Product is considered stable.
 - Hazardous polymerisation will not occur.
 - Presence of elevated temperatures.
- For incompatible materials - refer to Section 7 - Handling and Storage.*

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

- Accidental ingestion of the material may be seriously damaging to the health of the individual; animal experiments indicate that ingestion of less than 40 gram may be fatal.
- Not normally a hazard due to physical form of product.
Considered an unlikely route of entry in commercial/industrial environments.

EYE

- This material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation. Moderate inflammation may be expected with redness; conjunctivitis may occur with prolonged exposure.
- Not considered to be a risk because of the extreme volatility of the gas.

SKIN

- This material can cause inflammation of the skin oncontact in some persons.
- The material may accentuate any pre-existing dermatitis condition.
Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.
Spray mist may produce discomfort.
Open cuts, abraded or irritated skin should not be exposed to this material.
Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.
Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

INHALED

- Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful.
- The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.
Inhalation of toxic gases may cause:
- Central Nervous System effects including depression, headache, confusion, dizziness, stupor, coma and seizures;
 - respiratory: acute lung swellings, shortness of breath, wheezing, rapid breathing, other symptoms and respiratory arrest;
 - heart: collapse, irregular heartbeats and cardiac arrest;
 - gastrointestinal: irritation, ulcers, nausea and vomiting (may be bloody), and abdominal pain.
- The vapour/mist may be highly irritating to the upper respiratory tract and lungs; the response may be severe enough to produce bronchitis and pulmonary oedema. Possible neurological symptoms arising from isocyanate exposure include headache, insomnia, euphoria, ataxia, anxiety neurosis, depression and paranoia.
WARNING: Intentional misuse by concentrating/inhaling contents may be lethal.

CHRONIC HEALTH EFFECTS

- There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment.
- Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems.
Inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population.
Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.
Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.
Principal route of occupational exposure to the gas is by inhalation.
Persons with a history of asthma or other respiratory problems or are known to be sensitised, should not be engaged in any work involving the handling of isocyanates. [CCTRADE-Bayer, APMF].
Isocyanate vapours are irritating to the airways and can cause their inflammation, with wheezing, gasping, severe distress, even

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Section 11 - TOXICOLOGICAL INFORMATION

loss of consciousness and fluid in the lungs. Nervous system symptoms that may occur include headache, sleep disturbance, euphoria, inco-ordination, anxiety, depression and paranoia. Digestive effects include nausea and vomiting. Breathing difficulties may occur unpredictably after a period of tolerance and after skin contact. Allergic inflammation of the skin can occur, with rash, itching, blistering, and swelling of the hands and feet. Sensitive people can react to very low levels and should not be exposed to this material.

Respiratory sensitisation may result in allergic/asthma like responses; from coughing and minor breathing difficulties to bronchitis with wheezing, gasping.

TOXICITY AND IRRITATION

■ Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.

Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound.

Allergic reactions involving the respiratory tract are usually due to interactions between IgE antibodies and allergens and occur rapidly. Allergic potential of the allergen and period of exposure often determine the severity of symptoms. Some people may be genetically more prone than others, and exposure to other irritants may aggravate symptoms. Allergy causing activity is due to interactions with proteins.

Attention should be paid to atopic diathesis, characterised by increased susceptibility to nasal inflammation, asthma and eczema.

Exogenous allergic alveolitis is induced essentially by allergen specific immune-complexes of the IgG type; cell-mediated reactions (T lymphocytes) may be involved. Such allergy is of the delayed type with onset up to four hours following exposure.

No significant acute toxicological data identified in literature search.

Isocyanate vapours are irritating to the airways and can cause their inflammation, with wheezing, gasping, severe distress, even loss of consciousness and fluid in the lungs. Nervous system symptoms that may occur include headache, sleep disturbance, euphoria, inco-ordination, anxiety, depression and paranoia. Digestive effects include nausea and vomiting. Breathing difficulties may occur unpredictably after a period of tolerance and after skin contact. Allergic inflammation of the skin can occur, with rash, itching, blistering, and swelling of the hands and feet. Sensitive people can react to very low levels and should not be exposed to this material.

The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

CARCINOGEN

Polymethylene polyphenyl isocyanate	International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs	Group	3
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Section 12 - ECOLOGICAL INFORMATION

This material and its container must be disposed of as hazardous waste.

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
MDI oligomer	No Data Available	No Data Available		
dimethyl ether	LOW	No Data Available	LOW	HIGH
iso- butane	HIGH	No Data Available	LOW	HIGH
propane	LOW	No Data Available	LOW	HIGH

Section 13 - DISPOSAL CONSIDERATIONS

■ Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area.

A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction.
- DO NOT allow wash water from cleaning or process equipment to enter drains.

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Section 13 - DISPOSAL CONSIDERATIONS

- It may be necessary to collect all wash water for treatment before disposal.
- In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- Where in doubt contact the responsible authority.
- Consult State Land Waste Management Authority for disposal.
- Discharge contents of damaged aerosol cans at an approved site.
- Allow small quantities to evaporate.
- DO NOT incinerate or puncture aerosol cans.

Section 14 - TRANSPORTATION INFORMATION

Labels Required: FLAMMABLE GAS

HAZCHEM:

2YE (ADG7)

ADG7:

Class or Division	2.1	Subsidiary Risk:	None
UN No.:	1950	Packing Group:	None
Special Provision:	63 190 277 327	Limited Quantity:	See SP 277
Portable Tanks & Bulk Containers - Instruction:	None	Portable Tanks & Bulk Containers - Special Provision:	None
Packagings & IBCs - Packing Instruction:	PP17 PP87 L2	Packagings & IBCs - Special Packing Provision:	P003 LP02

Name and Description: AEROSOLS

Land Transport UNDG:

Class or division	2.1	Subsidiary risk:	None
UN No.:	1950	UN packing group:	None

Shipping Name:AEROSOLS

Air Transport IATA:

ICAO/IATA Class:	2.1	ICAO/IATA Subrisk:	None
UN/ID Number:	1950	Packing Group:	-
Special provisions:	A145		
Cargo Only			
Packing Instructions:	203	Maximum Qty/Pack:	150 kg
Passenger and Cargo		Passenger and Cargo	
Packing Instructions:	203	Maximum Qty/Pack:	75 kg
Passenger and Cargo		Passenger and Cargo	
Limited Quantity		Limited Quantity	
Packing Instructions:	Y203	Maximum Qty/Pack:	30 kg G

Shipping name:AEROSOLS

Maritime Transport IMDG:

IMDG Class:	2	IMDG Subrisk:	SP63
UN Number:	1950	Packing Group:	None
EMS Number:	F- D, S- U	Special provisions:	63 190 277 327 344 959
Limited Quantities:	See SP277		

Shipping name:AEROSOLS

Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE None

REGULATIONS

Regulations for ingredients

continued...

RAMSET BLAZEBRAKE FIRE RATED FOAM

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Section 16 - OTHER INFORMATION

INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name	CAS
dimethyl ether	115- 10- 6, 157621- 61- 9

■ Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

www.chemwatch.net/references.

■ The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

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Issue Date: 30-Jul-2012

Print Date: 31-Jul-2012

This is the end of the MSDS.