

SAFETY DATA SHEET

MOTAQUIP RADIATOR FLUSH

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name	MOTAQUIP RADIATOR FLUSH
Product number	VOL409
Internal identification	B16931, 15007

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

Identified uses	Car maintenance product. Automobile Coolant System Cleaning Agent
Uses advised against	This product is not recommended for any industrial, professional or consumer use other than the identified uses stated above.

1.3. Details of the supplier of the safety data sheet

Supplier	MOTAQUIP LIMITED Unit B1, Luton Enterprise Park, Sundon Park Road, Luton Bedfordshire LU3 3GU
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1.4. Emergency telephone number

Emergency telephone	Tel:
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Physical hazards	Not Classified
Health hazards	Skin Irrit. 2 - H315 Eye Irrit. 2 - H319
Environmental hazards	Not Classified
Human health	The liquid is irritating to eyes and skin.
Environmental	The product is not expected to be hazardous to the environment.
Physicochemical	When handled correctly, undamaged units represent no danger. Not considered to be a significant hazard due to the small quantities used.

2.2. Label elements

Pictogram



Signal word	Warning
Hazard statements	H315 Causes skin irritation. H319 Causes serious eye irritation.

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Precautionary statements	<p>P264 Wash contaminated skin thoroughly after handling.</p> <p>P280 Wear protective gloves/protective clothing/eye protection/face protection.</p> <p>P302+P352 IF ON SKIN: Wash with plenty of water.</p> <p>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P321 Specific treatment (see medical advice on this label).</p> <p>P332+P313 If skin irritation occurs: Get medical advice/attention.</p> <p>P337+P313 If eye irritation persists: Get medical advice/attention.</p> <p>P362+P364 Take off contaminated clothing and wash it before reuse.</p> <p>P103 Read label before use.</p>
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Supplemental label information	RCH002a Restricted to professional users.
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Detergent labelling	< 5% EDTA and salts thereof
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2.3. Other hazards

SECTION 3: Composition/information on ingredients

3.2. Mixtures

CITRIC ACID, ANHYDROUS		10-30%
CAS number: 77-92-9	EC number: 201-069-1	REACH registration number: 01-2119457026-42-XXXX

Classification	Classification (67/548/EEC or 1999/45/EC)
Skin Irrit. 2 - H315	Xi;R36/38.
Eye Irrit. 2 - H319	

SULPHAMIC ACID		5-10%
CAS number: 5329-14-6	EC number: 226-218-8	REACH registration number: 01-2119488633-28-XXXX

Classification	Classification (67/548/EEC or 1999/45/EC)
Skin Irrit. 2 - H315	Xi;R36/38 R52/53
Eye Irrit. 2 - H319	
Aquatic Chronic 3 - H412	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition comments	The data shown are in accordance with the latest EC Directives.
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SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Treat symptomatically.
Inhalation	Move affected person to fresh air at once. Rinse nose and mouth with water. Get medical attention if any discomfort continues.
Ingestion	Never give anything by mouth to an unconscious person. Do not induce vomiting. Rinse mouth thoroughly with water. Get medical attention if any discomfort continues.
Skin contact	Remove affected person from source of contamination. Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing.

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Eye contact Remove affected person from source of contamination. Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if irritation persists after washing. Show this Safety Data Sheet to the medical personnel.

4.2. Most important symptoms and effects, both acute and delayed

General information The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation This is unlikely to occur but symptoms similar to those of ingestion may develop. Vapours may cause headache, fatigue, dizziness and nausea.

Ingestion May cause discomfort if swallowed. May cause stomach pain or vomiting.

Skin contact Skin irritation. Prolonged or repeated contact with skin may cause irritation, redness and dermatitis.

Eye contact Irritation and redness, followed by blurred vision. May cause severe eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor No specific recommendations. If in doubt, get medical attention promptly.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media The product is not flammable. Use fire-extinguishing media suitable for the surrounding fire.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards No unusual fire or explosion hazards noted.

Hazardous combustion products Oxides of carbon. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting No specific firefighting precautions known. Extinguishing waters may present a risk of damage to the environmental, collect and dispose of as hazardous waste, in accordance with local legislation.

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

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Environmental precautions Not considered to be a significant hazard due to the small quantities used.

6.3. Methods and material for containment and cleaning up

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Methods for cleaning up Small Spillages: Stop leak if possible without risk. Flush contaminated area with plenty of water. Take care as floors and other surfaces may become slippery. Large Spillages: Absorb spillage with non-combustible, absorbent material. Flush contaminated area with plenty of water. Contain spillage with sand, earth or other suitable non-combustible material. Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13. Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Wash thoroughly after dealing with a spillage.

6.4. Reference to other sections

Reference to other sections Wear protective clothing as described in Section 8 of this safety data sheet.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid spilling. Eye wash facilities and emergency shower must be available when handling this product. Good personal hygiene procedures should be implemented. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site. Avoid contact with skin and eyes.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place. Avoid freezing. Keep only in the original container.

Storage class Chemical storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

CITRIC ACID, ANHYDROUS

Long-term exposure limit (8-hour TWA): 4 mg/m³ respirable dust

SULPHAMIC ACID

Long-term exposure limit (8-hour TWA): 4 mg/m³ respirable dust

Ingredient comments WEL = Workplace Exposure Limits

CITRIC ACID, ANHYDROUS (CAS: 77-92-9)

DNEL	No DNEL available.
PNEC	- Fresh water; 0.44 mg/l - Marine water; 0.044 mg/l - STP; 1000 mg/l - Sediment (Freshwater); 34.6 mg/kg sediment dw - Sediment (Marinewater); 3.46 mg/kg sediment dw - Soil; 33.1 mg/kg soil dw

SULPHAMIC ACID (CAS: 5329-14-6)

DNEL	Workers - Dermal; Long term systemic effects: 10 mg/kg bw/day General population - Dermal, Oral; Long term systemic effects: 5 mg/kg bw/day
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PNEC

- Fresh water; 0.048 mg/l
- Marine water; 0.0048 mg/l
- Intermittent release; 0.48 mg/l
- STP; 2 mg/l
- Sediment (Freshwater); 0.173 mg/kg sediment dw
- Sediment (Marinewater); 0.0173 mg/kg sediment dw
- Soil; 0.00638 mg/kg soil dw

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation. Avoid inhalation of vapours. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection

Contact lenses should not be worn when working with this chemical. Use safety glasses (with side shields), consistent with EN 166 or equivalent.

Hand protection

Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. If hands are cut or scratched, use gloves chemically resistant to this material even for brief exposures. Use gloves with insulation for thermal protection (EN 407), when needed. Examples of preferred glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl alcohol ("PVA"). Polyvinyl chloride ("PVC" or "vinyl"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time greater than 480 minutes according to EN 374) is recommended. When only brief contact is expected, 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 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.

Other skin and body protection

Wear appropriate clothing to prevent any possibility of skin contact. Provide eyewash station and safety shower. Barrier cream applied before work may make it easier to clean the skin after exposure, but does not prevent absorption through the skin.

Hygiene measures

Do not smoke in work area. Wash hands at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes contaminated. Promptly remove any clothing that becomes contaminated. Do not eat, drink or smoke when using this product.

Respiratory protection

No specific recommendations. Respiratory protection may be required if excessive airborne contamination occurs.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Clear liquid.
Colour	Colourless.

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Odour	Almost odourless.
pH	pH (concentrated solution): <1
Relative density	1.100 @ 20°C
Solubility(ies)	Completely soluble in water.

9.2. Other information

Refractive index	1.360 - 1.365
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	There are no known reactivity hazards associated with this product.
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10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Will not polymerise.
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10.4. Conditions to avoid

Conditions to avoid	Avoid excessive heat for prolonged periods of time.
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10.5. Incompatible materials

Materials to avoid	Strong oxidising agents. Strong acids. Chlorine. Inorganic sulphides. Acetates.
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10.6. Hazardous decomposition products

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 monoxide (CO). Carbon dioxide (CO ₂).
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

General information	To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated.
Inhalation	Gas or vapour in high concentrations may irritate the respiratory system. Symptoms following overexposure may include the following: Coughing.
Ingestion	May cause discomfort if swallowed.
Skin contact	Irritating to skin. Prolonged or repeated exposure may cause severe irritation.
Eye contact	Irritating to eyes. Prolonged or repeated exposure may cause severe irritation.
Acute and chronic health hazards	Not expected to be a health hazard when used under normal conditions.
Route of entry	Skin and/or eye contact
Target organs	Eyes Skin Respiratory system, lungs Gastro-intestinal tract
Medical symptoms	Irritation of eyes and mucous membranes. Liquid irritates mucous membranes and may cause abdominal pain if swallowed.

Toxicological information on ingredients.

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CITRIC ACID, ANHYDROUS

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 5,400.0

Species Mouse

Notes (oral LD₅₀) Based on available data the classification criteria are not met.

ATE oral (mg/kg) 5,400.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 2,001.0

Species Rat

Notes (dermal LD₅₀) Based on available data the classification criteria are not met.

ATE dermal (mg/kg) 2,001.0

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Data lacking.

Skin corrosion/irritation

Animal data Skin - rabbit - Mild skin irritation - 24 hr OECD Guideline 404.

Serious eye damage/irritation

Serious eye damage/irritation Rabbit Irritating to eyes.

Respiratory sensitisation

Respiratory sensitisation Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Based on available data the classification criteria are not met.

Aspiration hazard

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Aspiration hazard	No data available.
Inhalation	Exposure to dust concentrations above statutory or recommended exposure limits may cause irritation of the respiratory tract.
Ingestion	May cause irritation. Gastrointestinal symptoms, including upset stomach.
Skin contact	There may be mild irritation at the site of contact. Repeated or prolonged exposure may lead to irritation and dermatitis.
Eye contact	Irritating and may cause redness and pain.

SULPHAMIC ACID

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 3,160.0

Species Rat

ATE oral (mg/kg) 3,160.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 2,001.0

Species Rat

ATE dermal (mg/kg) 2,001.0

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Data lacking.

Skin corrosion/irritation

Animal data Irritating. Rabbit

Serious eye damage/irritation

Serious eye damage/irritation Eyes - rabbit - Severe eye irritation - 24h - Draize Test

Respiratory sensitisation

Respiratory sensitisation Data lacking.

Skin sensitisation

Skin sensitisation Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity Data lacking.

Reproductive toxicity

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Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Based on available data the classification criteria are not met.

Aspiration hazard

Aspiration hazard No data available.

Inhalation Dust irritates the respiratory system, and may cause coughing and difficulties in breathing.

Ingestion There may be soreness and redness of the mouth and throat. May irritate and cause stomach pain, vomiting and diarrhoea.

Skin contact There may be irritation and redness at the site of contact. There may be redness or whiteness of the skin in the area of exposure. Prolonged or repeated exposure may cause severe irritation.

Eye contact Irritating and may cause redness and pain. Repeated exposure may cause chronic eye irritation.

Route of entry Skin and/or eye contact

SECTION 12: Ecological Information

Ecotoxicity Not regarded as dangerous for the environment. The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment.

12.1. Toxicity

Ecological information on ingredients.

CITRIC ACID, ANHYDROUS

Acute toxicity - fish LC50, 96 hours: 440 - 706 mg/l, *Leuciscus idus* (Golden orfe)

Acute toxicity - aquatic invertebrates EC₅₀, Neutralised., 24 hours: 1535 mg/l, *Daphnia magna*
EC₅₀, Not neutralised., 24 hours: 85 mg/l, *Daphnia magna*

SULPHAMIC ACID

Acute toxicity - fish LC50, 96 hours: 70.3 mg/l, *Pimephales promelas* (Fat-head Minnow)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 71.6 mg/l, *Daphnia magna*

Acute toxicity - aquatic plants Effect on growth., EC₅₀, 72 hours: 48 mg/l, *Desmodemus subspicatus*
NOEC, 72 hours: 18 mg/l, *Desmodemus subspicatus*

12.2. Persistence and degradability

Persistence and degradability The product is biodegradable but it must not be discharged into drains without permission from the authorities.

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Ecological information on ingredients.

CITRIC ACID, ANHYDROUS

Persistence and degradability

The substance is readily biodegradable.

SULPHAMIC ACID

Persistence and degradability

The product is expected to be slowly biodegradable.

12.3. Bioaccumulative potential

Ecological information on ingredients.

CITRIC ACID, ANHYDROUS

Bioaccumulative potential

Not potentially bioaccumulative

SULPHAMIC ACID

Bioaccumulative potential

Not potentially bioaccumulative

12.4. Mobility in soil

Mobility

The product is soluble in water.

Ecological information on ingredients.

CITRIC ACID, ANHYDROUS

Mobility

The product is soluble in water.

SULPHAMIC ACID

Mobility

The product is soluble in water.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment

This product does not contain any substances classified as PBT or vPvB.

Ecological information on ingredients.

CITRIC ACID, ANHYDROUS

Results of PBT and vPvB assessment

This substance is not classified as PBT or vPvB according to current EU criteria.

SULPHAMIC ACID

Results of PBT and vPvB assessment

PBT assessment does not apply.

12.6. Other adverse effects

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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General information The packaging must be empty (drop-free when inverted). Waste should be treated as controlled waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID)	1760
UN No. (IMDG)	1760
UN No. (ICAO)	1760
UN No. (ADN)	1760

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	CORROSIVE LIQUID, N.O.S. (SULPHAMIC ACID SOLUTION)
Proper shipping name (IMDG)	CORROSIVE LIQUID, N.O.S. (SULPHAMIC ACID SOLUTION)
Proper shipping name (ICAO)	CORROSIVE LIQUID, N.O.S. (SULPHAMIC ACID SOLUTION)
Proper shipping name (ADN)	CORROSIVE LIQUID, N.O.S. (SULPHAMIC ACID SOLUTION)

14.3. Transport hazard class(es)

ADR/RID class	8
ADR/RID classification code	C9
ADR/RID label	8
IMDG class	8
ICAO class/division	8
ADN class	8

Transport labels



14.4. Packing group

ADR/RID packing group	III
IMDG packing group	III
ADN packing group	III
ICAO packing group	III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

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EmS	F-A, S-B
ADR transport category	3
Emergency Action Code	2X
Hazard Identification Number (ADR/RID)	80
Tunnel restriction code	(E)

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.
EU legislation	Dangerous Substances Directive 67/548/EEC. Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).
Guidance	Workplace Exposure Limits EH40. Introduction to Local Exhaust Ventilation HS(G)37. CHIP for everyone HSG228. Approved Classification and Labelling Guide (Sixth edition) L131.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Revision comments	This is first issue.
Issued by	HS&E Manager.
Revision date	12/06/2015
Revision	1
Supersedes date	12/01/2015
SDS status	Approved.
Risk phrases in full	Not classified. R36/38 Irritating to eyes and skin. R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Hazard statements in full	H315 Causes skin irritation. H319 Causes serious eye irritation. H412 Harmful to aquatic life with long lasting effects.

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This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.