



SAFETY DATA SHEET

New Zealand

Section 1. Identification

Product name

**ActiSM™ with Poloxamer-188, without Insulin,
without L-Glutamine, 5kg**

Catalogue Number

SH31038.07



9 0 S H 3 1 0 3 8 . 0 7

Other means of identification

Not available.

Product type

Powder.

Identified uses

For Further Manufacturing or Research Use. Not for Diagnostic or Therapeutic Use.

Supplier

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Emergency telephone number

111

Section 2. Hazards identification

HSNO Classification

EYE IRRITATION - Category 2
LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3

Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 46.8%

This material is classified as hazardous according to criteria in the Hazardous Substances (Hazard Classification) Notice 2020.

GHS label elements

Signal word Warning

Hazard statements Causes serious eye irritation.
Harmful to aquatic life with long lasting effects.

Precautionary statements

General Do not apply directly into or onto water. Take all reasonable steps to ensure that the substance does not cause any significant adverse effects to the environment beyond the application area.

Prevention Wear eye or face protection. Avoid release to the environment. Wash thoroughly after handling.

Response	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.
Storage	Not applicable.
Disposal	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Symbol	
Other hazards which do not result in classification	May form explosive dust-air mixture if dispersed.

Section 3. Composition/information on ingredients

Substance/mixture	Mixture	
Other means of identification	Not available.	
Ingredient name	% (w/w)	Identifiers
Sodium chloride	<25.4	CAS: 7647-14-5 EC: 231-598-3
Poloxalene >50% in a non hazardous diluent	<8.2	CAS: 9003-11-6
Butanedioic acid	<5.5	CAS: 110-15-6 EC: 203-740-4
Potassium chloride	<3.35	CAS: 7447-40-7 EC: 231-211-8
Sodium phosphate	<3.35	CAS: 7558-80-7 EC: 231-449-2
L-serine	<2.85	CAS: 56-45-1 EC: 200-274-3
Ferric ammonium citrate	<2.15	CAS: 1185-57-5 EC: 214-686-6
L-valine	<1.95	CAS: 72-18-4 EC: 200-773-6

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Ingestion	Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Skin contact	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Eye contact	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Inhalation	Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
Ingestion	No known significant effects or critical hazards.
Skin contact	No known significant effects or critical hazards.
Eye contact	Causes serious eye irritation.

Over-exposure signs/symptoms

Inhalation	Adverse symptoms may include the following: respiratory tract irritation coughing
Ingestion	No specific data.
Skin	No specific data.
Eyes	Adverse symptoms may include the following: pain or irritation watering redness

Indication of immediate medical attention and special treatment needed, if necessary

Specific treatments	Not available.
Notes to physician	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)**Section 5. Firefighting measures****Extinguishing media**

Suitable	Use dry chemical powder.
Not suitable	Avoid high pressure media which could cause the formation of a potentially explosive dust-air mixture.
Specific hazards arising from the chemical	May form explosive dust-air mixture if dispersed. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Hazardous thermal decomposition products	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides halogenated compounds metal oxide/oxides
Hazchem code	Not available.
Special precautions for fire-fighters	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Special protective equipment for fire-fighters	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures**Personal precautions, protective equipment and emergency procedures**

For non-emergency personnel	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Environmental precautions	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and material for containment and cleaning up

Small spill	Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
Large spill	Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Avoid creating dusty conditions and prevent wind dispersal. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Protective measures	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Avoid release to the environment. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.
Advice on general occupational hygiene	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Conditions for safe storage, including any incompatibilities	Store between the following temperatures: 2 to 8°C (35.6 to 46.4°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name

Ferric ammonium citrate

Exposure limits

HSWA 2015 - HSW (GRWM) 2016. Workplace exposure standards (WES) (New Zealand, 11/2023) [Iron salts, soluble]

WES-TWA 8 hours: 1 mg/m³ (as Fe).

Biological exposure indices

No exposure indices known.

Appropriate engineering controls

Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

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.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. If operating conditions cause high dust concentrations to be produced, use dust goggles.

Skin protection

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection	Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
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Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state	Solid. [Powder.]
Colour	Off-white. to Light brown.
Odour	Not available.
Odour threshold	Not available.
pH	3.1 to 3.9 [Conc. (% w/w): 2.1%]
Melting point/freezing point	Not available.
Boiling point or initial boiling point and boiling range	Not available.
Flash point	Not applicable.
Burning time	Not available.
Burning rate	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Lower and upper explosive (flammable) limits	Not applicable.
Vapour pressure	Not available.
Relative vapour density	Not applicable.
Relative density	Not available.
Solubility in water	Not available.
Partition coefficient: n-octanol/water	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not available.
SADT	Not available.
Viscosity	Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C (104°F)): Not available.
Flow time (ISO 2431)	Not available.
Particle characteristics	
Median particle size	Not available.

Section 10. Stability and reactivity

Reactivity	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Prevent dust accumulation.
Incompatible materials	Reactive or incompatible with the following materials: oxidising materials
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on likely routes of exposure

Inhalation	Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
Ingestion	No known significant effects or critical hazards.
Skin contact	No known significant effects or critical hazards.
Eye contact	Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation	Adverse symptoms may include the following: respiratory tract irritation coughing
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Ingestion	No specific data.
Skin contact	No specific data.
Eye contact	Adverse symptoms may include the following: pain or irritation watering redness

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Acute toxicity**

Product/ingredient name	Result
Poloxalene >50% in a non hazardous diluent	Rabbit - Dermal - LD50 20000 mg/kg Rat - Oral - LD50 5700 mg/kg <u>Toxic effects:</u> Behavioral - Somnolence (general depressed activity) Gastrointestinal - Hypermotility, diarrhea
Butanedioic acid	Rat - Oral - LD50 2260 mg/kg
Potassium chloride	Rat - Male - Oral - LD50 2600 mg/kg <u>Toxic effects:</u> Gastrointestinal - Hypermotility, diarrhea Gastrointestinal - Nausea or vomiting
Sodium phosphate	Rat - Oral - LD50 8290 mg/kg
L-serine	Rat - Oral - LD50 14 g/kg
Ferric ammonium citrate	Rat - Oral - LD50 2001 mg/kg
L-valine	Rat - Oral - LD50 2000 mg/kg

Conclusion/Summary[Product] Not available.**Skin corrosion/irritation**

Not available.

Conclusion/Summary[Product] Not available.**Ingredient name**L-serine
L-valine**Conclusion/Summary**May cause skin irritation.
May cause skin irritation.**Serious eye damage/eye irritation**

Not available.

Conclusion/Summary[Product] Not available.**Ingredient name**L-serine
L-valine**Conclusion/Summary**May cause eye irritation.
May cause eye irritation.**Respiratory corrosion/irritation**

Not available.

Conclusion/Summary[Product] Not available.**Respiratory or skin sensitization**

Not available.

Skin**Conclusion/Summary[Product]** Not available.**Respiratory****Conclusion/Summary[Product]** Not available.

Potential chronic health effects

General	Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.
Inhalation	Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.
Ingestion	No known significant effects or critical hazards.
Skin contact	No known significant effects or critical hazards.
Eye contact	No known significant effects or critical hazards.
Carcinogenicity	No known significant effects or critical hazards.
Mutagenicity	No known significant effects or critical hazards.
Developmental effects	No known significant effects or critical hazards.
Fertility effects	No known significant effects or critical hazards.

Chronic toxicity

Not available.

Conclusion/Summary[Product] Not available.

Carcinogenicity

Not available.

Conclusion/Summary[Product] Not available.

Germ cell mutagenicity

Not available.

Conclusion/Summary[Product] Not available.

Reproductive toxicity

Not available.

Conclusion/Summary[Product] Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Result
Sodium phosphate	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Numerical measures of toxicity**Acute toxicity estimates**

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
ActiSM™ with Poloxamer-188, without Insulin, without L-Glutamine	89530.4	N/A	N/A	N/A	N/A
Poloxalene >50% in a non hazardous diluent	5700	20000	N/A	N/A	N/A
Butanedioic acid	2260	N/A	N/A	N/A	N/A
Potassium chloride	2600	N/A	N/A	N/A	N/A
Sodium phosphate	8290	N/A	N/A	N/A	N/A
L-serine	14000	N/A	N/A	N/A	N/A
Ferric ammonium citrate	2001	N/A	N/A	N/A	N/A
L-valine	2000	N/A	N/A	N/A	N/A

Section 12. Ecological information

Ecotoxicity

This material is harmful to aquatic life with long lasting effects.

Aquatic and terrestrial toxicity

Product/ingredient name

Sodium chloride

Result

Acute - LC50 - Fresh water

Fish - Striped bass - *Morone saxatilis* - Larvae
1000 mg/l [96 hours]

Effect: Mortality

Chronic - NOEC - Fresh water

Daphnia - Water flea - *Daphnia pulex*
0.314 g/l [21 days]

Effect: Reproduction

Chronic - NOEC - Fresh water

Fish - Eastern mosquitofish - *Gambusia holbrookii* - Adult
100 mg/l [8 weeks]

Effect: Reproduction

Chronic - NOEC - Fresh water

OECD
Aquatic plants - Duckweed - *Lemna minor*
6 g/l [96 hours]

Effect: Growth

Acute - EC50 - Fresh water

Daphnia - Water flea - *Daphnia magna*
402.6 mg/l [48 hours]

Effect: Intoxication

Acute - EC50 - Fresh water

Algae - Green algae - *Selenastrum capricornutum*
28.85 mg/dm³ [72 hours]

Effect: Population

LC50

OECD 203 [Fish, Acute Toxicity Test]
Fish
10000 mg/l [96 hours]

Acute - EC50 - Fresh water

Daphnia - Water flea - *Daphnia magna* - Larvae
Age: <24 hours

374.2 mg/l [48 hours]

Effect: Intoxication

Acute - LC50 - Fresh water

Crustaceans - Water flea - *Pseudosida ramosa* - Neonate
Age: ≤24 hours
9.68 mg/l [48 hours]

Effect: Mortality

Acute - EC50 - Fresh water

ISO
Algae - Green algae - *Desmodesmus subspicatus*
9.24 g/l [72 hours]

Effect: Population

Acute - LC50 - Fresh water

Fish - Zebra danio - *Danio rerio*
509.65 mg/l [96 hours]

Effect: Mortality

Acute - LC50 - Fresh water

Fish - Western mosquitofish - *Gambusia affinis* - Adult
720 ppm [96 hours]

Effect: Mortality

Acute - EC50

Daphnia
83 mg/l [48 hours]

Acute - NOEC

Algae
1000 mg/l [72 hours]

LC50

Fish
10000 mg/l [96 hours]

Poloxalene >50% in a non hazardous diluent

Butanedioic acid

Potassium chloride

Sodium phosphate

L-serine

L-valine

Conclusion/Summary[Product] Not available.

Ingredient name

L-serine

L-valine

Conclusion/Summary

Naturally occurring substance

Naturally occurring substance

Persistence/degradability

Product/ingredient name	Result		
L-valine	82% [28 days]		
Conclusion/Summary[Product]	Not available.		
Ingredient name	Conclusion/Summary		
Poloxalene >50% in a non hazardous diluent	Not expected to bioaccumulate.		
L-serine	Not expected to bioaccumulate. Naturally occurring substance		
L-valine	Not expected to bioaccumulate. Naturally occurring substance		
Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
L-valine	-	-	Readily
Bioaccumulative potential			
Product/ingredient name	LogP _{ow}	BCF	Potential
succinic acid	-0.59	-	Low
L-serine	-3.07	0.609	Low
L-valine	-2.26	0.846	Low
Mobility in soil			
Soil/water partition coefficient	Not available.		
Other adverse effects	No known significant effects or critical hazards.		

Section 13. Disposal considerations

Disposal methods	The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.
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Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*
New Zealand Class	Not regulated.	-	-	-
IATA Class	Not regulated.	-	-	-
IMDG Class	Not regulated.	-	-	-

PG* : Packing group

Special precautions for user	Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
Transport in bulk according to IMO instruments	Not available.

Section 15. Regulatory information

HSNO Approval Number	Not available.
HSNO Group Standard	Not available.
HSNO Classification	EYE IRRITATION - Category 2 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

New Zealand	Not determined.
Australia	Not determined.
United States	Not determined.
Canada inventory	Not determined.
China	Not determined.
Japan	Japan inventory (CSCL): Not determined. Japan inventory (ISHL): Not determined.

Section 16. Other information

History

Date of printing	6 November 2025
Date of issue/ Date of revision	06 November 2025
Date of previous issue	No previous validation
Version	1
Key to abbreviations	ADG = Australian Dangerous Goods ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail UN = United Nations
References	Not available.

 Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.
