

# Ardex (Ardex NZ)

Chemwatch: 81-2272

Version No: **4.1** Safety Data Sheet according to the Health and Safety at Work (Hazardous Substances) Regulations 2017 Chemwatch Hazard Alert Code: 2

Issue Date: **15/04/2021** Print Date: **24/10/2024** L.GHS.NZL.EN.E

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

#### **Product Identifier**

Product name	ARDEX WPM 247
Chemical Name	Not Applicable
Synonyms	anionic bitumen emulsion
Chemical formula	Not Applicable
Other means of identification	Not Available

### Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	Water based bitumen polymer.

### Details of the manufacturer or supplier of the safety data sheet

Registered company name	Ardex (Ardex NZ)	
Address	32 Lane Street Woolston Christchurch New Zealand	
Telephone	+64 3384 3029 +64 3384 9779	
Fax	+64 3384 9779	
Website	www.ardex.co.nz	
Email	info@ardexnz.com	

#### Emergency telephone number

Association / Organisation	Ardex (Ardex NZ)
Emergency telephone number(s)	+64 3 373 6900
Other emergency telephone number(s)	0800 764 766 (NZ NPC)

### **SECTION 2 Hazards identification**

#### Classification of the substance or mixture

# Considered a Hazardous Substance according to the criteria of the New Zealand Hazardous Substances New Organisms legislation. Not regulated for transport of Dangerous Goods.

Classification <sup>[1]</sup>	Acute Toxicity (Oral) Category 5, Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3, Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3, Carcinogenicity Category 2
Legend:	1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI
Determined by Chemwatch using GHS/HSNO criteria	6.1E (oral), 6.1E (respiratory), 6.3A, 6.4A, 6.7B, 6.9B (narcotic effects)

### Label elements

Hazard statement(s)

Hazard pictogram(s)	
Signal word	Warning

H303	May be harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.

### Precautionary statement(s) Prevention

P201	Obtain special instructions before use.	
P271	Use only outdoors or in a well-ventilated area.	
P280	Wear protective gloves, protective clothing, eye protection and face protection.	
P261	Avoid breathing mist/vapours/spray.	
P264	Wash all exposed external body areas thoroughly after handling.	

### Precautionary statement(s) Response

P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor/physician/first aider if you feel unwell.
P308+P313	IF exposed or concerned: Get medical advice/ attention.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
P302+P352	IF ON SKIN: Wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.

### Precautionary statement(s) Storage

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P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

### Precautionary statement(s) Disposal

P501

Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

### **SECTION 3 Composition / information on ingredients**

### Substances

See section below for composition of Mixtures

### Mixtures

CAS No	%[weight]	Name
8052-42-4	50-60	<u>bitumen (petroleum)</u>
Not Available	0-5	polymer
Not Available	<3	anionic emulsifier
Not Available	<2	viscosity modifier
1310-73-2	<0.1	sodium hydroxide
2634-33-5	<0.1	1,2-benzisothiazoline-3-one
7732-18-5	30-60	water
Legend:	1. Classified by Chemwatch; 2. Classificatio VI: 4. Classification drawn from C&L: * EU I	n drawn from CCID EPA NZ; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex OELVs available

### **SECTION 4 First aid measures**

# Description of first aid measures

Description of first and measures		
Eye Contact	<ul> <li>If this product comes in contact with the eyes:</li> <li>Wash out immediately with fresh running water.</li> <li>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.</li> <li>Seek medical attention without delay; if pain persists or recurs seek medical attention.</li> <li>Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>	
Skin Contact	If skin contact occurs:  I Immediately remove all contaminated clothing, including footwear. Flush skin and hair with running water (and scap if available). Seek medical attention in event of irritation. Immediately drench burn area in cold running water. If hot bitumen adheres to the skin, DO NOT attempt to remove it (it acts as a sterile dressing). For burns to the head and neck and trunk, apply cold wet towels to the burn area, and change frequently to maintain cooling. Cooling should be maintained for no longer than thirty minutes. When hot bitumen completely encircles a limb, it may have a tourniquet effect and should be split as it cools. Transport to hospital or doctor. In case of burns: Immediately and water to burn either by immersion or wrapping with saturated clean cloth. DO NOT remove or cut away clothing over burnt areas. DO NOT pull away clothing which has adhered to the skin as this can cause further injury.	

	<ul> <li>DO NOT break blister or remove solidified material.</li> <li>Quickly cover wound with dressing or clean cloth to help prevent infection and to ease pain.</li> <li>For large burns, sheets, towels or pillow slips are ideal; leave holes for eyes, nose and mouth.</li> <li>DO NOT apply ointments, oils, butter, etc. to a burn under any circumstances.</li> <li>Water may be given in small quantities if the person is conscious.</li> <li>Alcohol is not to be given under any circumstances.</li> <li>Reassure.</li> <li>Treat for shock by keeping the person warm and in a lying position.</li> <li>Seek medical aid and advise medical personnel in advance of the cause and extent of the injury and the estimated time of arrival of the patient.</li> </ul>
Inhalation	<ul> <li>If fumes or combustion products are inhaled remove from contaminated area.</li> <li>Lay patient down. Keep warm and rested.</li> <li>Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li> <li>Transport to hospital, or doctor, without delay.</li> </ul>
Ingestion	<ul> <li>If swallowed do NOT induce vomiting.</li> <li>If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>Observe the patient carefully.</li> <li>Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>Seek medical advice.</li> </ul>

#### Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Burns . No attempt should be made to remove the bitumen (it acts as a sterile dressing). Cover the bitumen with tulle gras and leave for two days when any detached bitumen can be removed. Re-dress and leave for a further week. If necessary refer to a burns unit. [Manufacturer]

### **SECTION 5 Firefighting measures**

#### Extinguishing media

• Do NOT direct a solid stream of water or foam into burning molten material; this may cause spattering and spread the fire.

The product contains a substantial proportion of water, therefore there are no restrictions on the type of extinguishing media which may be used. Choice of extinguishing media should take into account surrounding areas.

Though the material is non-combustible, evaporation of water from the mixture, caused by the heat of nearby fire, may produce floating layers of combustible substances. In such an event consider:

- foam.
- dry chemical powder.
- carbon dioxide.

#### Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.
Advice for firefighters	
Fire Fighting	<ul> <li>Alert Fire Brigade and tell them location and nature of hazard.</li> <li>Wear breathing apparatus plus protective gloves in the event of a fire.</li> <li>Prevent, by any means available, spillage from entering drains or water courses.</li> <li>Use fire fighting procedures suitable for surrounding area.</li> <li>DO NOT approach containers suspected to be hot.</li> <li>Cool fire exposed containers with water spray from a protected location.</li> <li>If safe to do so, remove containers from path of fire.</li> <li>Equipment should be thoroughly decontaminated after use.</li> </ul>
Fire/Explosion Hazard	<ul> <li>carbon dioxide (CO2)</li> <li>nitrogen oxides (NOX)</li> <li>sulfur oxides (SOx)</li> <li>sulfur dioxide (SO2)</li> <li>other pyrolysis products typical of burning organic material.</li> <li>May emit clouds of acrid smoke</li> <li>NOTE: Burns with intense heat. Produces melting, flowing, burning liquid and dense acrid black smoke.</li> <li>May emit corrosive fumes.</li> <li>May emit corrosive fumes.</li> <li>Combustible.</li> <li>Slight fire hazard when exposed to heat or flame.</li> <li>Heating may cause expansion or decomposition leading to violent rupture of containers.</li> <li>On combustion, may emit toxic fumes of carbon monoxide (CO).</li> <li>May emit acrid smoke.</li> <li>Mists containing combustible materials may be explosive.</li> <li>Combustion products include:</li> </ul>

### **SECTION 6 Accidental release measures**

Personal precautions, protective equipment and emergency procedures

See section 8

#### **Environmental precautions**

See section 12

#### Methods and material for containment and cleaning up

- **Minor Spills**
- Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes.
  - Control personal contact with the substance, by using protective equipment.
     Contain and absorb spill with sand, earth, inert material or vermiculite.

	<ul> <li>Wipe up.</li> <li>Place in a suitable, labelled container for waste disposal.</li> </ul>
Major Spills	<ul> <li>Absorb or contain isothiazolinone liquid spills with sand, earth, inert material or vermiculite.</li> <li>The absorbent (and surface soil to a depth sufficient to remove all of the biocide) should be shovelled into a drum and treated with an 11% solution of sodium metabisulfite (Na2S2O5) or sodium bisulfite (NaHSO3), or 12% sodium sulfite (Na2SO3) and 8% hydrochloric acid (HCI).</li> <li>Glutathione has also been used to inactivate the isothiazolinones.</li> <li>Use 20 volumes of decontaminating solution for each volume of biocide, and let containers stand for at least 30 minutes to deactivate microbicide before disposal.</li> <li>If contamination of drains or waterways occurs, advise emergency services.</li> <li>After clean up operations, decontaminate and launder all protective clothing</li> <li>and equipment before storing and re-using.</li> </ul>

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

### SECTION 7 Handling and storage

Precautions for safe handling	<ul> <li>DO NOT allow clothing wet with material to stay in contact with skin</li> <li>Avoid all personal contact, including inhalation.</li> <li>Wear protective clothing when risk of exposure occurs.</li> <li>Use in a well-ventilated area.</li> <li>Prevent concentration in hollows and sumps.</li> </ul>
Safe handling	<ul> <li>DO NOT allow material to contact humans, exposed food or food utensils.</li> <li>Avoid contact with incompatible materials.</li> <li>When handling, DO NOT eat, drink or smoke.</li> <li>Keep containers securely sealed when not in use.</li> <li>Avoid physical damage to containers.</li> <li>Always wash hands with scap and water after handling.</li> <li>Work clothes should be laundered separately. Launder contaminated clothing before re-use.</li> <li>Use good occupational work practice.</li> <li>Observe manufacturer's storage and handling recommendations contained within this SDS.</li> <li>Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.</li> </ul>
Other information	<ul> <li>Store in original containers.</li> <li>Keep containers securely sealed.</li> <li>No smoking, naked lights or ignition sources.</li> <li>Store in a cool, dry, well-ventilated area.</li> <li>Store away from incompatible materials and foodstuff containers.</li> <li>Protect containers against physical damage and check regularly for leaks.</li> <li>Observe manufacturer's storage and handling recommendations contained within this SDS.</li> </ul>

### Conditions for safe storage, including any incompatibilities

Suitable container	<ul> <li>Polyethylene or polypropylene container.</li> <li>Packing as recommended by manufacturer.</li> <li>Check all containers are clearly labelled and free from leaks.</li> </ul>
Storage incompatibility	<ul> <li>Avoid reaction with oxidising agents</li> <li>Avoid strong acids, bases.</li> </ul>

### **SECTION 8 Exposure controls / personal protection**

#### **Control parameters**

### Occupational Exposure Limits (OEL)

INGR	FDIENT	ΠΔΤΔ

Source	Ingredient	Material name	TWA		STEL	Peak	Notes
New Zealand Workplace Exposure Standards (WES)	bitumen (petroleum)	Asphalt (petroleum) fumes	0.5 mg/m3		Not Available	Not Available	(skin) - Skin absorption
New Zealand Workplace Exposure Standards (WES)	sodium hydroxide	Sodium hydroxide	Not Availat	ole	Not Available	2 mg/m3	Not Available
Ingredient	Original IDLH			Rev	vised IDLH		
bitumen (petroleum)	Not Available	Not Available			Not Available		
sodium hydroxide	10 mg/m3			Not Available			
1,2-benzisothiazoline-3-one	Not Available			Not Available			
water	Not Available			Not	Not Available		
Occupational Exposure Banding	9						
Ingredient	Occupational Exposure Band Rating			0	Occupational Exposure Band Limit		
1,2-benzisothiazoline-3-one	E			≤ 0.01 mg/m³			
Notes:	Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.			chemical's potency and the (OEB), which corresponds			

### MATERIAL DATA

#### Exposure controls

Appropriate engineering controls For molten materials:

Provide mechanical ventilation; in general such ventilation should be provided at compounding/ converting areas and at fabricating/ filling work stations where the material is heated. Local exhaust ventilation should be used over and in the vicinity of machinery involved in

handling the molten material. Keep dry!!

Processing temperatures may be well above boiling point of water, so wet or damp material may cause a serious steam explosion if used in unvented equipment.

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. Ventilation can remove or dilute an air contaminant if designed properly. The

design of a ventilation system must match the particular process and chemical or contaminant in use. Employers may need to use multiple types of controls to prevent employee overexposure.

Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection. An approved self contained breathing apparatus (SCBA) may be required in some situations.

Provide adequate ventilation in warehouse or closed storage area. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

Type of Contaminant:	Air Speed:
solvent, vapours, degreasing etc., evaporating from tank (in still air).	0.25-0.5 m/s (50- 100 f/min.)
aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)	0.5-1 m/s (100- 200 f/min.)
direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200- 500 f/min.)
grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	2.5-10 m/s (500- 2000 f/min.)
Within each range the appropriate value depends on:	

Lower end of the range	Upper end of the range
1: Room air currents minimal or favourable to capture	1: Disturbing room air currents
2: Contaminants of low toxicity or of nuisance value only.	2: Contaminants of high toxicity
3: Intermittent, low production.	3: High production, heavy use
4: Large hood or large air mass in motion	4: Small hood-local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.



- Safety glasses with side shields.
- Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent]
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses 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].

Skin protection

Eye and face protection

Individual protection measures, such as personal protective equipment

Hands/feet protection

Wear chemical protective gloves, e.g. PVC.

Wear safety footwear or safety gumboots, e.g. Rubber

NOTE:

See Hand protection below

- 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.

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:

- frequency and duration of contact,
- · chemical resistance of glove material,
- glove thickness and dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).

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, AS/NZS 2161.10.1 or national equivalent) 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, AS/NZS 2161.10.1 or national equivalent) is recommended.

· Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use.

 $\cdot$  Contaminated gloves should be replaced.

As defined in ASTM F-739-96 in any application, gloves are rated as:

Excellent when breakthrough time > 480 min

Good when breakthrough time > 20 min

· Fair when breakthrough time < 20 min

	<ul> <li>Poor when glove material degrades</li> <li>For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended.</li> <li>It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.</li> <li>Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers technical data should always be taken into account to ensure selection of the most appropriate glove for the task.</li> <li>Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:</li> <li>Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.</li> <li>Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential</li> <li>Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.</li> <li>Butyl rubber gloves</li> <li>Nitrile rubber gloves (Note: Nitric acid penetrates nitrile gloves in a few minutes.)</li> </ul>
Body protection	See Other protection below
Other protection	<ul> <li>Overalls.</li> <li>P.V.C apron.</li> <li>Barrier cream.</li> <li>Skin cleansing cream.</li> <li>Eye wash unit.</li> </ul>

### Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the computergenerated selection:

ARDEX WPM 247

Material	CPI
BUTYL	A
NEOPRENE	A
NAT+NEOPR+NITRILE	С
NATURAL RUBBER	С
NATURAL+NEOPRENE	С
NEOPRENE/NATURAL	С
NITRILE	С
NITRILE+PVC	С
PE	С
PE/EVAL/PE	С
PVA	С
PVC	C
SARANEX-23	С
SARANEX-23 2-PLY	С
TEFLON	С
VITON	С
VITON/CHLOROBUTYL	С

\* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

\* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

#### Ansell Glove Selection

Glove — In order of recommendation
AlphaTec® Solvex® 37-185
AlphaTec® 38-612
AlphaTec® 58-008
AlphaTec® 58-530B
AlphaTec® 58-530W
AlphaTec® 58-735
AlphaTec® 79-700
AlphaTec® Solvex® 37-675
DermaShield™ 73-711
MICROFLEX® 63-864

#### **Respiratory protection**

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

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	A-AUS P2	-	A-PAPR-AUS / Class 1 P2
up to 50 x ES	-	A-AUS / Class 1 P2	-
up to 100 x ES	-	A-2 P2	A-PAPR-2 P2 ^

#### ^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

- Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

For molten materials

The suggested gloves for use should be confirmed with the glove supplier.

### **SECTION 9** Physical and chemical properties

### Information on basic physical and chemical properties

Appearance	Black liquid with slight bitumen odour; mixes with water.		
Physical state	Liquid	Relative density (Water = 1)	1.02
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	>100	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Available	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Available	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	40
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available
Heat of Combustion (kJ/g)	Not Available	Ignition Distance (cm)	Not Available
Flame Height (cm)	Not Available	Flame Duration (s)	Not Available
Enclosed Space Ignition Time Equivalent (s/m3)	Not Available	Enclosed Space Ignition Deflagration Density (g/m3)	Not Available

### SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	<ul> <li>Unstable in the presence of incompatible materials.</li> <li>Product is considered stable.</li> <li>Hazardous polymerisation will not occur.</li> <li>Extremely high temperatures.</li> </ul>
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

### **SECTION 11 Toxicological information**

### Information on toxicological effects

Inhaled	Evidence shows, or practical experience predicts, that the material produces irritation of the respiratory system, in a substantial number of individuals, following inhalation. In contrast to most organs, the lung is able to respond to a chemical insult by first removing or neutralising the irritant and then repairing the damage. The repair process, which initially evolved to protect mammalian lungs from foreign matter and antigens, may however, produce further lung damage resulting in the impairment of gas exchange, the primary function of the lungs. Respiratory tract irritation often results in an inflammatory response involving the recruitment and activation of many cell types, mainly derived from the vascular system. Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by narcosis, reduced alerthess, loss of reflexes, lack of coordination and vertigo. Symptoms of hydrogen sulfide (H2S) exposure may include profuse salivation, nausea, vomiting, diarrhoea, giddiness, headache, vertigo, amnesia, palpitations, arrhythmia, weakness, muscle cramps, confusion, sudden collapse, unconsciousness and death due to respiratory paralysis (above 300 ppm). Inhalation of (H2S) at low concentrations causes headache, dizziness and upset stomach. Higher concentrations cause olfactory fatigue, irritation to the respiratory tract, excitement, confusion, and exposure for a prolonged period may cause bronchitis and pulmonary oedema. Although hydrogen sulfide is primarily a respiratory toxin which inhibits the cytochrome-oxidase system and is probably more potent than hydrogen cyanide is primarily a respiratory toxin which inhibits the cytochrome-oxidase system and is probably more potent than hydrogen cyanide. The lifetime of hydrogen sulfide intoxication occur at the scene of exposure and immediate supportive care is imperative. Ensure such contingencies are addressed as part of the site emergency plan and that operators or other employees who may become accidentally exposed, are made aware of the exi
	pneumonitis, bronchial dilation, abscess formation, epithelial atrophy, and necrosis. In health studies in the workplace, environmental measurement showed concentrations of asphalt, ranging from "non-detectable", where there was good mechanical ventilation, to 40 mg/m3, where there was very poor natural draft. Breathing zone samples, collected during
	Continued

	drum-filling operations, ranged from 1.0 (upwind) to 5 mg/m3 (downwind) as means of 4-hour exposures. In the opinion of industrial
	hygienists conducting these studies, work conditions were satisfactory where asphalt fumes were kept below 10 mg/m3 Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the
Ingestion	Accidental ingestion of the material may be damaging to the health of the individual. Swallowing pieces of bitumen may produce pyloric obstruction due to accumulation in the stomach and the formation of a stony concretion. Isothiazolinones are moderately to highly toxic by oral administration. The major signs of toxicity were severe gastric irritation, lethargy, and ataxia Central nervous system (CNS) depression may include nonspecific discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal.
	Repeated exposure may cause skin cracking, flaking or drying following normal handling and use.
	Limited evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis.
Skin Contact	Solutions of 0.5% strength 1,2-benzisothiazoline-3-one (BIT) are irritating to the skin. Allergenic effects also begin at 0.05% and have been confirmed in a series of case and patch test studies. When the substance was applied to human volunteers under an occlusive patch the maximum tolerated doses was 0.05%. Five hours after application of 0.1% (1000 ppm) one person showed moderate erythema with papule development which was interpreted as a reaction to the sticking plaster; in four persons there was mild reddening of the skin. The reaction had ameliorated in several persons after 72 hours. A second application produced various severe dermal reactions (erythema and papules) in 8 persons. A third application to several of the group produced erythema. Provocation tests with BIT showed the material to be sensitising. Of 20 metal workers with dermatitis, 4 were shown to have been sensitised to BIT in cutting oils. Cases of contact eczema in workers producing polyacrylate emulsions for paints and wax polish, in which BIT was the preservative, have been described. Epicutaneous challenge tests to BIT were positive. Similar findings have been described in the paper-manufacturing industry, in the rubber industry, in the control laboratory of a chemical plant and among workers producing ceramic moulds in
	which BIT was added to the mould oil Aqueous solutions of isothiazolinones may be irritating or even corrosive depending on concentration. Solutions containing more than 0.5% (5000 ppm active substance) may produce severe irritation of human skin whilst solutions containing more than 100 ppm may irritate the skin. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds 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.
	Limited evidence exists, or practical experience suggests, that the material may cause eye irritation in a substantial number of individuals and/or is expected to produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals. Repeated or prolonged eye contact may cause inflammation characterised by temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur.
Eye	Workers exposed to fumes of blown bitumens developed keratoconjunctivitis. Exposure to H2S may produce pain, blurred vision, and irritation. These symptoms are temporary in all but severe cases. Eye irritation may produce conjunctivitis, photophobia, pain, and at higher concentrations blurred vision and corneal blistering Solutions containing isothiazolinones may produce corrosion of the mucous membranes and cornea. Instillation of 0.1 ml of an aqueous solution containing 560 ppm isothiazolinone into rabbit eye did not produce irritation whereas concentrations, typically around 3% and 5.5 %, were severely irritating or corrosive to the eye Symptoms included clouding of the cornea, chemosis and swelling of the eyelids.
Chronic	On the basis, primarily, of animal experiments, concern has been expressed that the material may produce carcinogenic or mutagenic effects; in respect of the available information, however, there presently exists inadequate data for making a satisfactory assessment. Practical experience shows that skin contact with the material is capable either of inducing a sensitisation reaction in a substantial number of individuals, and/or of producing a positive response in experimental animals. Substances that can cause occupational asthma (also known as asthmagens and respiratory sensitisers) can induce a state of specific airway hyper-responsiveness via an immunological, irritant or other mechanism. Once the airways have become hyper-responsive, further exposure to the substance, sometimes even to tiny quantities, may cause respiratory symptoms. These symptoms can range in severity from a runny nose to asthma. Not all workers who are exposed to a sensitiser will become hyper-responsive and it is impossible to identify in advance who are likely to become hyper-responsive. Substances that can cause occupational asthma should be distinguished from substances which may trigger the symptoms of asthma in people with pre-existing air-way hyper-responsiveness. The latter substances are not classified as asthmagens or respiratory sensitisers? Wherever it is reasonably practicable, exposure to substances that can cuase occupational asthma should be cortrol to prevent workers from becoming hyper-responsive. Activities giving rise to short-term peak concentrations should receive particular attention when risk management is being considered. Health surveillance is appropriate for all employees exposed or liable to be exposed to a substance which may cause occupational asthma and there should be appropriate consultation with an occupational health professional over the degree of risk and level of surveillance. Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving o
	<ul> <li>In a teratogenic study in rats concentrations of up to 40 mg/kg 1,2-benzisothiazoline-3-one (BIT) were neither embryotoxic nor teratogenic. The material is not mutagenic. In a 2-year carcinogenicity study with rats, BIT did not produce excess tumours. The results derived from this test are questionable because no dose series was administered and because there were too few animals.</li> <li>A 90-day study with beagle dogs receiving oral doses showed reduced food consumption and body weight gain as well as mild anaemia, increases in the weights of liver and in male animals, brain and spleen weights.</li> <li>The no-observed-effect-level (NOEL) was given as 165 mg/kg (ie 0.5 BIT in the diet). A 90-day study with rats receiving dietary BIT showed reduced liver and pitultary weights in males. The NOEL was less than 0.1 %.</li> <li>The isothiazolinones are known contact sensitisers. Data are presented which demonstrate that, in comparison with the chlorinated and dichlorinated compounds which share immunological cross-reactivity, the non-chlorinated isothiazolinones. The risk of sensitization depends on how contact with the product occurs. The risk is greater when the skin barrier has been damaged and smaller when the skin is healthy. Dermatological studies have demonstrated that mixed isothiazolinone concentrations in the range of 7-15 ppm active isothiazolinones. The risk of sensitized persons even with concentrations in the range of 7-15 ppm active isothiazolinones. Several conclusions relating to the sensitising characteristics of the isothiazolinones may therefore be drawn* :</li> <li>The stongest sensities to be sensitiseng characteristics of the isothiazolinones may therefore be drawn* :</li> <li>The stongest sensities are the chlorinated isothiazolinones.</li> <li>The risk of sensitisation.</li> <li>Several conclusions relating to the sensitising characteristics of the isothiazolinones any therefore be drawn* :</li> <li>The stongest sensities are the chlorinated isothiazolinones.</li> <li>The reappea</li></ul>

Although presently available data promise that several non-chlorinated isothiazolinones will offer effective antimicrobial protection in industrial and personal care products, it is only with the passage of time that proof of their safety in use or otherwise will become available.
* B.R. Alexander: Contact Dermatitis 2002, 46, pp 191-196
Although there have been conflicting reports in the literature, it has been reported by several investigators that isothiazolinones are mutagenic in <i>Salmonella typhimurium</i> strains (Ames test). Negative results were obtained in studies of the DNA-damaging potential of mixed isothiazolinones (Kathon) in mammalian cells <i>in vitro</i> and of cytogenetic effects and DNA-binding <i>in vivo</i> . The addition of rat liver S-9 (metabolic activation) reduced toxicity but did not eliminate mutagenicity. These compounds bind to the proteins in the S-9. At higher
concentrations of Kathon the increase in mutagenicity may be due to an excess of unbound active compounds.
A study of cutaneous application of Kathon CG in 30 months, three times per week at a concentration of 400 ppm (0.04%) a.i. had no local or systemic tumourigenic effect in male mice. No dermal or systemic carcinogenic potential was observed.
Reproduction and teratogenicity studies with rats, given isothiazolinone doses of 1.4-14 mg/kg/day orally from day 6 to day 15 of gestation, showed no treatment related effects in either the dams or in the foetuses
Chronic exposure to bitumen/ asphalt fumes, over extended periods, may cause central nervous system depression, and liver and kidney
changes. Chronic bitumen/ asphalt poisoning may result in a decrease in the number of white and red blood cells. [ <i>ILO Encyclopedia</i> ] Prolonged contact with bitumens may produce irritation inflammation dermatitis, acre-like lesions, keratoses, melanosis, and
photosensitisation.
Animal inhalation studies do NOT yield sufficient evidence of bitumen/ asphalt-induced lung cancer. It is generally accepted that oxidation of polycyclic aromatic hydrocarbons (PAHs) destroys their carcinogenic potential and the differing character of the polycyclic aromatic fraction
of petroleum asphalt fume and those of coal tar pitch volatiles suggested a lessened potential for carcinogenicity.
Inhalation of fumes of heated bitumens by guinea pigs and rats produced chronic fibrosing pneumonitis with peribronchial adenomatosis; rats developed squamous cell metaplasias
Various extracts of steam-refined and air-refined bitumens and their mixtures, undiluted steam-refined bitumens and cracking residue
bitumens. produced skin tumours following application to mouse skin. Subcutaneous injection in mice and rats. of steam- and air- reined
bitumens, produced sarcomas at the sites of injection. Application of air-refined bitumens, in toluene, to the skin of mice, produced skin
tumours. No tumours were produced by the undiluted bitumen. A pooled mixture of steam- and air-blown petroleum bitumen in benzene, produced tumours at the site of application to mouse skin.
No significant difference was found in the health of asphalt workers and of groups of controls in a study conducted in 25 oil refineries. Other studies have not demonstrated health defects in paying and roofing operations (using asphalt-based products) and interstate trucking over
asphalt highways.
NOTE: The term bitumen and asphalt are often used interchangeably and have been used to describe products derived from petroleum and/
or coal. Asphalt is a native mixture of hydrocarbons which occurs as an amorphous, brownish-black solid or semisolid and results from the evaporation of the lighter hydrocarbons from petroleum and partial oxidation of the residue. Petroleum asphalts (bitumens) should therefore
be differentiated from coal pitch bitumens which result from the destructive distillation of coal.
The term "asphalt" originally applied to "Trinidad asphalt" which is a mined solid and is closely related to gilsonite.
On occasion there are reports of epidemiological studies which have found an increased cancer mortality in workers exposed to heated
bitumens and bitumen fumes. There are reports of significantly increased incidence of cancers of the mouth, oesophagus, rectum and lung. The bitumens, used by this cohort, are likely to have their origin in coal and should be distinguished from materials derived from the
petroleum industry (the asphalts).
Hardened bitumens/ asphalts do not normally constitute a health hazard. Mined sources of bitumens/ asphalts may present an additional
hazard related to their naturally occurring content of quartz. Chronic inhalation of high levels of quartz dusts may produce silicosis, a
disabling form of pneumoconiosis which may lead to scarring of the lining of the air-sacs of the lung.
Chronic low level exposures to hydrogen sulfide may produce headache, fatigue, dizziness, irritability and loss of libido. These symptoms may also result from damage produced by isolated or repeated unmeasured peak high level exposures in healthy persons or those suffering
from pre-existing neurological diseases. A study on long term effects showed that H2S apparently can cause continuing, sometimes unrecognised olfactory deficits. [Hirsch, A.R Occ. Env. Med., 1999, Vol 5, Iss 4, pp 284-287]

	ΤΟΧΙΟΙΤΥ	IRRITATION
ARDEX WPM 247	Not Available	Not Available
	ΤΟΧΙΟΙΤΥ	IRRITATION
bitumen (petroleum)	Dermal (rabbit) LD50: >2000 mg/kg <sup>[2]</sup>	Eye: no adverse effect observed (not irritating) <sup>[1]</sup>
	Oral (Rat) LD50: >5000 mg/kg <sup>[2]</sup>	Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
	ΤΟΧΙΟΙΤΥ	IRRITATION
	Dermal (rabbit) LD50: 1350 mg/kg <sup>[2]</sup>	Eye (Primate - monkey): 1%/24H - Severe
	Oral (Rabbit) LD50; 325 mg/kg <sup>[1]</sup>	Eye (Rodent - rabbit): 1% - Severe
		Eye (Rodent - rabbit): 100mg
		Eye (Rodent - rabbit): 1mg/24H - Severe
		Eye (Rodent - rabbit): 1mg/30S - Severe
oodium hydroxida		Eye (Rodent - rabbit): 400ug - Mild
soaiain nyaroxide		Eye (Rodent - rabbit): 50ug/24H - Severe
		Eye: adverse effect observed (irritating) <sup>[1]</sup>
		Skin (Human): 0.15%/96H
		Skin (Human): 2%/24H - Mild
		Skin (Human): 2.50%/24H
		Skin (Rodent - rabbit): 500mg/24H - Severe
		Skin: adverse effect observed (corrosive) $\ensuremath{^{[1]}}$
	ΤΟΧΙΟΙΤΥ	IRRITATION
	dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>	Eye: adverse effect observed (irreversible damage) <sup>[1]</sup>
4.0 have is athis as line 0 and	Oral (Rat) LD50: 454 mg/kg <sup>[1]</sup>	Skin (Human - man): 0.05%
1,2-benzisotniazonne-s-one		Skin (Human): 1%/1H
		Skin (Human): 5%/48H - Mild
		Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
water	ΤΟΧΙCΙΤΥ	IRRITATION

	Oral (Rat) LD50: >90000 mg/kg <sup>[2]</sup>	Not Available	
Legend:	<ol> <li>Value obtained from Europe ECHA Registered Substances - Acute specified data extracted from RTECS - Register of Toxic Effect of cher</li> </ol>	toxicity 2. Value ol nical Substances	otained from manufacturer's SDS. Unless otherwise
BITUMEN (PETROLEUM)	WARNING: This substance has been classified by the IARC as Group	2B: Possibly Card	sinogenic to Humans.
SODIUM HYDROXIDE	The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. The material may produce severe skin irritation after prolonged or repeated exposure, and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) thickening of the epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis. Prolonged contact is unlikely, given the severity of response, but repeated exposures may produce severe ulceration.		
1,2-BENZISOTHIAZOLINE-3- ONE	contact is unlikely, given the severity of response, but repeated exposures may produce severe ulceration. The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as uticatia or Quincke's oedema. The pathogenesis of contact teszema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact uticaria, involves an tool-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 equaly important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which fer 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. In light of potential adverse effects, and to ensure a harmonised risk assessment and management, the EU regulatory framework for biccides has been established with the objective of ensuring a high level of protection of human and animal health and the environment. To this aim, it is required that risk assessment of biocidal products is carried out before they can be placed on the market. A central element in the risk assessment of the biocidal products undifferent ways in both occupational and domestic settings. Many biocidal products are fundation, potential exposure of numerans and the environment to the biocidal products (i.e. the general public) may occur indirectly via the environment, for example through dinking water, the food chain, as well as through through public way ways in terms of route (inhalation, potential exposure, level, frequency and duration. The predominant fate of the thiazote ring is oxidative ring scission catalysed by cytochrome P450 (C		
BITUMEN (PETROLEUM) & SODIUM HYDROXIDE	Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, couch and mucus production.		
BITUMEN (PETROLEUM) & 1,2-BENZISOTHIAZOLINE-3- ONE & WATER	No significant acute toxicological data identified in literature search.		
Acute Toxicity	✓	Carcinogenicity	¥
Skin Irritation/Corrosion	¥	Reproductivity	×
Serious Eye Damage/Irritation	✓ STOT - S	ingle Exposure	*
Respiratory or Skin sensitisation	X STOT - Repe	ated Exposure	×
Mutagenicity	X Asj	piration Hazard	×

Legend:

## **SECTION 12 Ecological information**

Data either not available or does not fill the criteria for classification
 Data available to make classification

	Endpoint	Test Duration (hr)	Species	Value	Source
ARDEX WPM 247	Not Available	Not Available	Not Available	Not Available	Not Available
	Endpoint	Test Duration (hr)	Species	Value	Source
bitumen (petroleum)	Not Available	Not Available	Not Available	Not Available	Not Available
	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	48h	Crustacea	34.59- 47.13mg/l	4
sodium hydroxide	EC50(ECx)	48h	Crustacea	34.59- 47.13mg/l	4
	LC50	96h	Fish	144- 267mg/l	4
	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	0.07mg/L	2
1 2-benzisothiazoline-3-one	EC50	48h	Crustacea	0.097mg/L	4
r,z-benzisotniazoiine-s-one	LC50	96h	Fish	0.067- 0.29mg/L	4
	NOEC(ECx)	72h	Algae or other aquatic plants	0.04mg/L	2
	Endpoint	Test Duration (hr)	Species	Value	Source
water	Not Available	Not Available	Not Available	Not Available	Not Available

### DO NOT discharge into sewer or waterways.

### Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
sodium hydroxide	LOW	LOW
water	LOW	LOW

# Bioaccumulative potential

Ingredient	Bioaccumulation
sodium hydroxide	LOW (LogKOW = -3.8796)

### Mobility in soil

Ingredient	Mobility
sodium hydroxide	LOW (Log KOC = 14.3)

### **SECTION 13 Disposal considerations**

Waste treatment methods	
Product / Packaging disposal	<ul> <li>Containers may still present a chemical hazard/ danger when empty.</li> <li>Return to supplier for reuse/ recycling if possible.</li> <li>Otherwise:</li> <li>If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.</li> <li>Where possible retain label warnings and SDS and observe all notices pertaining to the product.</li> <li>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.</li> <li>A Hierarchy of Controls seems to be common - the user should investigate:</li> <li>Reduction</li> <li>Reuse</li> <li>Recycling</li> <li>Disposal (if all else fails)</li> <li>This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.</li> <li>DO NOT allow wash water from cleaning or process equipment to enter drains.</li> <li>It may be necessary to collect all wash water for treatment before disposal.</li> <li>In all cases disposal to sever may be subject to local laws and regulations and these should be considered first.</li> <li>Where in doubt contact the responsible authority.</li> <li>Recycle wherever possible.</li> <li>Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.</li> <li>Dispose of by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or incineration in a</li></ul>

• Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

Ensure that the hazardous substance is disposed in accordance with the Hazardous Substances (Disposal) Notice 2017

#### **Disposal Requirements**

Packages that have been in direct contact with the hazardous substance must be only disposed if the hazardous substance was appropriately removed and cleaned out from the package. The package must be disposed according to the manufacturer's directions taking into account the material it is made of. Packages which hazardous content have been appropriately treated and removed may be recycled.

The hazardous substance must only be disposed if it has been treated by a method that changed the characteristics or composition of the substance and it is no longer hazardous.

Only dispose to the environment if a tolerable exposure limit has been set for the substance.

Only deposit the hazardous substance into or onto a landfill or sewage facility or incinerator, where the hazardous substance can be handled and treated appropriately.

#### SECTION 14 Transport information

Labels Required		
Marine Pollutant	NO	
HAZCHEM	Not Applicable	

#### Land transport (UN): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

#### Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

#### Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

#### 14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
bitumen (petroleum)	Not Available
sodium hydroxide	Not Available
1,2-benzisothiazoline-3-one	Not Available
water	Not Available

#### 14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
bitumen (petroleum)	Not Available
sodium hydroxide	Not Available
1,2-benzisothiazoline-3-one	Not Available
water	Not Available

#### **SECTION 15 Regulatory information**

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

This substance is to be managed using the conditions specified in an applicable Group Standard

HSR Number	Group Standard	
HSR002646	Polymers Carcinogenic Group Standard 2020	
HSR002655	Solvents Carcinogenic Group Standard 2020	
HSR002679	Surface Coatings and Colourants Carcinogenic Group Standard 2020	

Please refer to Section 8 of the SDS for any applicable tolerable exposure limit or Section 12 for environmental exposure limit.

#### bitumen (petroleum) is found on the following regulatory lists

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans

- International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)
- New Zealand Hazardous Substances and New Organisms (HSNO) Act Classification of Chemicals

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

#### sodium hydroxide is found on the following regulatory lists

New Zealand Approved Hazardous Substances with controls

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

#### 1,2-benzisothiazoline-3-one is found on the following regulatory lists

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 1 Quantity limits for dangerous goods

#### water is found on the following regulatory lists

New Zealand Inventory of Chemicals (NZIoC)

### Additional Regulatory Information

Not Applicable

### Hazardous Substance Location

Subject to the Health and Safety at Work (Hazardous Substances) Regulations 2017.

Hazard Class	Quantities
Not Applicable	Not Applicable

### **Certified Handler**

Subject to Part 4 of the Health and Safety at Work (Hazardous Substances) Regulations 2017.

Class of substance	Quantities
Not Applicable	Not Applicable

Refer Group Standards for further information

### Maximum quantities of certain hazardous substances permitted on passenger service vehicles

Subject to Regulation 13.14 of the Health and Safety at Work (Hazardous Substances) Regulations 2017.				
Hazard Class	Gas (aggregate water capacity in mL)	Liquid (L)	Solid (kg)	Maximum quantity per package for each classification
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

### **Tracking Requirements**

Not Applicable

#### **National Inventory Status**

National Inventory	Status		
Australia - AIIC / Australia Non- Industrial Use	Yes		
Canada - DSL	Yes		
Canada - NDSL	No (bitumen (petroleum); sodium hydroxide; 1,2-benzisothiazoline-3-one; water)		
China - IECSC	Yes		
Europe - EINEC / ELINCS / NLP	Yes		
Japan - ENCS	No (bitumen (petroleum))		
Korea - KECI	Yes		
New Zealand - NZIoC	Yes		
Philippines - PICCS	Yes		
USA - TSCA	All chemical substances in this product have been designated as TSCA Inventory 'Active'		
Taiwan - TCSI	Yes		
Mexico - INSQ	Yes		
Vietnam - NCI	Yes		
Russia - FBEPH	Yes		
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.		

#### **SECTION 16 Other information**

Revision Date	15/04/2021
Initial Date	30/05/2017

#### SDS Version Summary

Version	Date of Update	Sections Updated
3.1	01/11/2019	One-off system update. NOTE: This may or may not change the GHS classification
4.1	15/04/2021	Classification change due to full database hazard calculation/update.

#### Other information

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.

The 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. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

#### Definitions and abbreviations

- PC TWA: Permissible Concentration-Time Weighted Average
- PC STEL: Permissible Concentration-Short Term Exposure Limit
- IARC: International Agency for Research on Cancer
- ACGIH: American Conference of Governmental Industrial Hygienists
- STEL: Short Term Exposure Limit
- TEEL: Temporary Emergency Exposure Limit。
- IDLH: Immediately Dangerous to Life or Health Concentrations
- ES: Exposure Standard

- OSF: Odour Safety Factor
- NOAEL: No Observed Adverse Effect Level
- LOAEL: Lowest Observed Adverse Effect Level
- TLV: Threshold Limit Value
- LOD: Limit Of Detection
- OTV: Odour Threshold Value
   BCF: BioConcentration Factors
- BEI: Biological Exposure Index
- DNEL: Derived No-Effect Level
- PNEC: Predicted no-effect concentration
- AIIC: Australian Inventory of Industrial Chemicals
- DSL: Domestic Substances List
- NDSL: Non-Domestic Substances List
- IECSC: Inventory of Existing Chemical Substance in China
- EINECS: European INventory of Existing Commercial chemical Substances
   ELINCS: European List of Notified Chemical Substances

- NLP: No-Longer Polymers
   ENCS: Existing and New Chemical Substances Inventory
- KECI: Korea Existing Chemicals Inventory
- NZIOC: New Zealand Inventory of Chemicals
- PICCS: Philippine Inventory of Chemicals and Chemical Substances
- FIGCS: Philippine inventory of Chemicals and TSCA: Toxic Substances Control Act
   TCSI: Taiwan Chemical Substance Inventory
- INSQ: Inventario Nacional de Sustancias Químicas
- NCI: National Chemical Inventory
- FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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