Ecoply Barrier H3.2 CCA Treated Plywood

Carter Holt Harvey Plywood Ltd

Chemwatch Hazard Alert Code: **2**

Chemwatch: **7999-18**
Version No: **3.1**
Safety Data Sheet according to the Health and Safety at Work (Hazardous Substances) Regulations 2017

Initial Date: **23/12/2025**
Revision Date: **20/01/2026**
Print Date: **29/01/2026**
L.GHS.NZL.EN.RISK.E

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

Product Identifier

Product name	Ecoply Barrier H3.2 CCA Treated Plywood
Chemical Name	Not Applicable
Synonyms	Not Available
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	Suitable for use in residential, commercial, industrial, and marine construction, as well as general building uses where timber needs protection from fungi, insects, or other organisms. Use according to manufacturer's directions.

Details of the manufacturer or importer of the safety data sheet

Registered company name	**Carter Holt Harvey Plywood Ltd**
Address	173 Captain Springs Rd Onehunga Auckland 1061 New Zealand
Telephone	+64 800 746 399
Fax	Not Available
Website	CHHPly.co.nz
Email	info@chhply.co.nz

Emergency telephone number

Association / Organisation	**Not Available**
Emergency telephone number(s)	Not Available
Other emergency telephone number(s)	Not Available

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.

Chemwatch Hazard Ratings

		Min	Max
Flammability	1	▬	
Toxicity	0		
Body Contact	2	▬▬	
Reactivity	1	▬	
Chronic	2	▬▬	

0 = Minimum
1 = Low
2 = Moderate
3 = High
4 = Extreme

Classification [1]	Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3, Carcinogenicity Category 2 ***LIMITED EVIDENCE**
Legend:	***1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI***

Page 1 continued...

Determined by Chemwatch using GHS/HSNO criteria	6.3A, 6.4A, 6.7B, 6.1E (respiratory tract irritant) ***LIMITED EVIDENCE**

Label elements

Hazard pictogram(s)	
Signal word	**Warning**

Hazard statement(s)

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.

***LIMITED EVIDENCE**

Precautionary statement(s) General

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read carefully and follow all instructions.

Precautionary statement(s) Prevention

P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves, protective clothing, eye protection and face protection.
P261	Avoid breathing dust/fumes.
P202	Do not handle until all safety precautions have been read and understood.
P264	Wash all exposed external body areas thoroughly after handling.

Precautionary statement(s) Response

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.
P312	Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.
P337+P313	If eye irritation persists: Get medical advice/attention.
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
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

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.

No further product hazard information.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

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CAS No	%[weight]	Name
Not Available	85-90	wood
40798-65-0	<11	phenol/ formaldehyde polymer sodium salt
Not Available	<3	Treatment residuals may include
1333-82-0	^	chromium trioxide
7778-39-4	^	arsenic acid
1317-38-0	^	copper(II) oxide
55965-84-9	^	5-chloro-2-methyl-4-isothiazolin-3-one
Not Available	<2	Coating comprises
7727-43-7	^	barium sulfate
13463-67-7	^	C.I. Pigment White 6
2451-62-9	^	triglycidyl isocyanurate
68186-94-7	^	C.I. Pigment Black 26

Legend:	***1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L; * EU IOELVs available***

SECTION 4 First aid measures

Description of first aid measures

Eye Contact	If this product comes in contact with the eyes: ▸ Wash out immediately with fresh running water. ▸ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▸ Seek medical attention without delay; if pain persists or recurs seek medical attention. ▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin contact occurs: ▸ Immediately remove all contaminated clothing, including footwear. ▸ Flush skin and hair with running water (and soap if available). ▸ Seek medical attention in event of irritation.
Inhalation	▸ If fumes or combustion products are inhaled remove from contaminated area. ▸ Lay patient down. Keep warm and rested. ▸ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ▸ 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. ▸ Transport to hospital, or doctor, without delay.
Ingestion	▸ Immediately give a glass of water. ▸ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Firefighting measures

Extinguishing media

- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.
- Water spray or fog - Large fires only.

Special hazards arising from the substrate or mixture

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

Advice for firefighters

Fire Fighting	▸ Alert Fire Brigade and tell them location and nature of hazard. ▸ Wear breathing apparatus plus protective gloves. ▸ Prevent, by any means available, spillage from entering drains or water courses. ▸ Use water delivered as a fine spray to control fire and cool adjacent area. ▸ **DO NOT** approach containers suspected to be hot. ▸ Cool fire exposed containers with water spray from a protected location. ▸ If safe to do so, remove containers from path of fire.

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	▸ Equipment should be thoroughly decontaminated after use.
Fire/Explosion Hazard	▸ Combustible solid which burns but propagates flame with difficulty; it is estimated that most organic dusts are combustible (circa 70%) - according to the circumstances under which the combustion process occurs, such materials may cause fires and / or dust explosions. ▸ Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidizing medium may form explosive dust-air mixtures and result in a fire or dust explosion (including secondary explosions). ▸ Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion. Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust (420 micron or less) may burn rapidly and fiercely if ignited - particles exceeding this limit will generally not form flammable dust clouds; once initiated, however, larger particles up to 1400 microns diameter will contribute to the propagation of an explosion. ▸ In the same way as gases and vapours, dusts in the form of a cloud are only ignitable over a range of concentrations; in principle, the concepts of lower explosive limit (LEL) and upper explosive limit (UEL) are applicable to dust clouds but only the LEL is of practical use; - this is because of the inherent difficulty of achieving homogeneous dust clouds at high temperatures (for dusts the LEL is often called the "Minimum Explosible Concentration", MEC). ▸ When processed with flammable liquids/vapors/mists,ignitable (hybrid) mixtures may be formed with combustible dusts. Ignitable mixtures will increase the rate of explosion pressure rise and the Minimum Ignition Energy (the minimum amount of energy required to ignite dust clouds - MIE) will be lower than the pure dust in air mixture. The Lower Explosive Limit (LEL) of the vapour/dust mixture will be lower than the individual LELs for the vapors/mists or dusts. ▸ A dust explosion may release of large quantities of gaseous products; this in turn creates a subsequent pressure rise of explosive force capable of damaging plant and buildings and injuring people. ▸ Usually the initial or primary explosion takes place in a confined space such as plant or machinery, and can be of sufficient force to damage or rupture the plant. If the shock wave from the primary explosion enters the surrounding area, it will disturb any settled dust layers, forming a second dust cloud, and often initiate a much larger secondary explosion. All large scale explosions have resulted from chain reactions of this type. ▸ Dry dust can be charged electrostatically by turbulence, pneumatic transport, pouring, in exhaust ducts and during transport. ▸ Build-up of electrostatic charge may be prevented by bonding and grounding. ▸ Powder handling equipment such as dust collectors, dryers and mills may require additional protection measures such as explosion venting. ▸ All movable parts coming in contact with this material should have a speed of less than 1-meter/sec. ▸ A sudden release of statically charged materials from storage or process equipment, particularly at elevated temperatures and/ or pressure, may result in ignition especially in the absence of an apparent ignition source. ▸ One important effect of the particulate nature of powders is that the surface area and surface structure (and often moisture content) can vary widely from sample to sample, depending of how the powder was manufactured and handled; this means that it is virtually impossible to use flammability data published in the literature for dusts (in contrast to that published for gases and vapours). ▸ Autoignition temperatures are often quoted for dust clouds (minimum ignition temperature (MIT)) and dust layers (layer ignition temperature (LIT)); LIT generally falls as the thickness of the layer increases. Combustion products include: ▸ carbon monoxide (CO) ▸ carbon dioxide (CO2) metal oxides ▸ other pyrolysis products typical of burning organic material. May emit poisonous fumes. May emit corrosive fumes. ▸ Powdered Phenolic resin is a combustible dust and this means that it is capable of forming flammable and explosive dust clouds in air. Such dust clouds can be sensitive to low energy ignition. Combustion can also propagate along a powder trail of settled dust, or result in repeated explosions as more dust is disturbed and rises into the air. ▸ The presence of dust external to plant items creates a potential hazard in that a secondary explosion could occur in the event of a flame or burning material being ejected due to a primary explosion within plant equipment. ▸ The severity of explosions by ignition of dust clouds is often much greater than that of vapour or gas mixtures and in industrial situations the potential exists for substantial damage to structures and harm to personnel. ▸ For Phenol Formaldehyde* powders the explosion severity is 3.9 based upon an explosion severity rating. Similarly flammability rating for Phenol Formaldehyde* powders (relative sensitivity of dusts to ignition) is 9.3 based upon a severity rating. *[Empirical scale based upon standard Pittsburgh coal dust being 1.0] ▸ Guidance as how to safely handle combustible dust can be obtained from including but not limited to AS/NZ standard 4745:2004 (Code of Practice for handling Combustible Dusts)and US National Fire Protection Association Standard 654. It is highly recommended that these standards be consulted prior to assessing and addressing the risks that can be encountered, other reference standards are (including but not limited to): AS/NZS 30000: 2000 Electrical installations AS/NZS 2381.1: 1999 Electrical equipment for explosive atmospheres.

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 waste regularly and abnormal spills immediately. ▸ Avoid breathing dust and contact with skin and eyes.

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	‣ Wear protective clothing, gloves, safety glasses and dust respirator. ‣ Use dry clean up procedures and avoid generating dust. ‣ Vacuum up or sweep up. **NOTE:** Vacuum cleaner must be fitted with an exhaust micro filter (H-Class HEPA type) (consider explosion-proof machines designed to be grounded during storage and use). H-Class HEPA filtered industrial vacuum cleaners should NOT be used on wet materials or surfaces. ‣ Dampen with water to prevent dusting before sweeping. ‣ Place in suitable containers for disposal.
Major Spills	Moderate hazard. ‣ **CAUTION**: Advise personnel in area. ‣ Alert Emergency Services and tell them location and nature of hazard. ‣ Control personal contact by wearing protective clothing. ‣ Prevent, by any means available, spillage from entering drains or water courses. ‣ Recover product wherever possible. ‣ **IF DRY:** Use dry clean up procedures and avoid generating dust. Collect residues and place in sealed plastic bags or other containers for disposal. **IF WET:** Vacuum/shovel up and place in labelled containers for disposal. ‣ **ALWAYS:** Wash area down with large amounts of water and prevent runoff into drains. ‣ If contamination of drains or waterways occurs, advise Emergency Services.

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

SECTION 7 Handling and storage

Precautions for safe handling

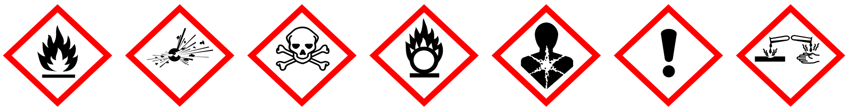
Safe handling	‣ Avoid skin contact, including inhalation. ‣ Wear protective clothing when risk of exposure occurs. ‣ Use in a well-ventilated area. ‣ Prevent concentration in hollows and sumps. ‣ **DO NOT** enter confined spaces until atmosphere has been checked. ‣ **DO NOT** allow material to come in direct contact with human skin or eyes. ‣ **DO NOT** allow material to come in contact with exposed food or food contact surfaces. ‣ Suitable PPE must be worn at all times. ‣ Avoid contact with incompatible materials. ‣ When handling, **DO NOT** eat, drink or smoke. ‣ Keep containers securely sealed when not in use. ‣ Avoid physical damage to containers. ‣ Always wash hands with soap and water after handling. ‣ Work clothes should be laundered separately. Launder contaminated clothing before re-use. ‣ Use good occupational work practice. ‣ Observe manufacturer's storage and handling recommendations contained within this SDS. ‣ Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained. ‣ Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidizing medium may form explosive dust-air mixtures and result in a fire or dust explosion (including secondary explosions) ‣ Minimise airborne dust and eliminate all ignition sources. Keep away from heat, hot surfaces, sparks, and flame. ‣ Establish good housekeeping practices. ‣ Remove dust accumulations on a regular basis by vacuuming or gentle sweeping to avoid creating dust clouds. ‣ Use continuous suction at points of dust generation to capture and minimise the accumulation of dusts. Particular attention should be given to overhead and hidden horizontal surfaces to minimise the probability of a "secondary" explosion. According to NFPA Standard 654, dust layers 1/32 in.(0.8 mm) thick can be sufficient to warrant immediate cleaning of the area. ‣ Do not use air hoses for cleaning. ‣ Minimise dry sweeping to avoid generation of dust clouds. Vacuum dust-accumulating surfaces and remove to a chemical disposal area. Vacuums with explosion-proof motors should be used. ‣ Control sources of static electricity. Dusts or their packages may accumulate static charges, and static discharge can be a source of ignition. ‣ Solids handling systems must be designed in accordance with applicable standards (e.g. NFPA including 654 and 77) and other national guidance. ‣ Do not empty directly into flammable solvents or in the presence of flammable vapors. ‣ The operator, the packaging container and all equipment must be grounded with electrical bonding and grounding systems. Plastic bags and plastics cannot be grounded, and antistatic bags do not completely protect against development of static charges. Empty containers may contain residual dust which has the potential to accumulate following settling. Such dusts may explode in the presence of an appropriate ignition source. ‣ Do NOT cut, drill, grind or weld such containers. ‣ In addition ensure such activity is not performed near full, partially empty or empty containers without appropriate workplace safety authorisation or permit.
Other information	‣ Store in original containers. ‣ Keep containers securely sealed. ‣ Store in a cool, dry area protected from environmental extremes. ‣ Store away from incompatible materials and foodstuff containers. ‣ Protect containers against physical damage and check regularly for leaks. ‣ Observe manufacturer's storage and handling recommendations contained within this SDS. For major quantities:

Continued...

	‣ Consider storage in bunded areas - ensure storage areas are isolated from sources of community water (including stormwater, ground water, lakes and streams}. ‣ Ensure that accidental discharge to air or water is the subject of a contingency disaster management plan; this may require consultation with local authorities.

Conditions for safe storage, including any incompatibilities

Suitable container	‣ Polyethylene or polypropylene container. ‣ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	The substance may be or contains a "metalloid" The following elements are considered to be metalloids; boron,silicon, germanium, arsenic, antimony, tellurium and (possibly) polonium The electronegativities and ionisation energies of the metalloids are between those of the metals and nonmetals, so the metalloids exhibit characteristics of both classes. The reactivity of the metalloids depends on the element with which they are reacting. For example, boron acts as a nonmetal when reacting with sodium yet as a metal when reacting with fluorine. Unlike most metals, most metalloids are amphoteric- that is they can act as both an acid and a base. For instance, arsenic forms not only salts such as arsenic halides, by the reaction with certain strong acid, but it also forms arsenites by reactions with strong bases. Most metalloids have a multiplicity of oxidation states or valences. For instance, tellurium has the oxidation states +2, -2, +4, and +6. Metalloids react like non-metals when they react with metals and act like metals when they react with non-metals. ‣ Avoid strong acids, bases. ‣ Avoid reaction with oxidising agents



+	x	+	o	+	+	o

X — *Must not be stored together*
0 — *May be stored together with specific preventions*
\+ — *May be stored together*

Note: Depending on other risk factors, compatibility assessment based on the table above may not be relevant to storage situations, particularly where large volumes of dangerous goods are stored and handled. Reference should be made to the Safety Data Sheets for each substance or article and risks assessed accordingly.

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
New Zealand Workplace Exposure Standards (WES)	chromium trioxide	Chromium (VI) compounds, as Cr	0.00002 mg/m3	0.0005 mg/m3	Not Available	carcinogen category 1 - Known or presumed human carcinogen bio - Exposure can also be estimated by biological monitoring rsen - Respiratory sensitiser dsen - Dermal sensitiser skin - Skin absorption
New Zealand Workplace Exposure Standards (WES)	arsenic acid	Chromium (VI) compounds, as Cr	0.00002 mg/m3	0.0005 mg/m3	Not Available	carcinogen category 1 - Known or presumed human carcinogen bio - Exposure can also be estimated by biological monitoring rsen - Respiratory sensitiser dsen - Dermal sensitiser skin - Skin absorption
New Zealand Workplace Exposure Standards (WES)	arsenic acid	Arsenic and soluble compounds, as As	0.001 mg/m3	Not Available	Not Available	carcinogen category 1 - Known or presumed human carcinogen oto - Ototoxin
New Zealand Workplace Exposure Standards (WES)	copper(II) oxide	Respirable dust (not otherwise classified)	3 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	copper(II) oxide	Inhalable dust (not otherwise classified)	10 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	copper(II) oxide	Copper and its inorganic compounds, as Cu respirable dust	0.01 mg/m3	Not Available	Not Available	dsen - Dermal sensitiser

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Source	Ingredient	Material name	TWA	STEL	Peak	Notes
New Zealand Workplace Exposure Standards (WES)	barium sulfate	Barium sulphate respirable dust	1 mg/m3	5 mg/m3	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	C.I. Pigment White 6	Titanium dioxide ultrafine dust	0.2 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	C.I. Pigment White 6	Titanium dioxide respirable dust	2.5 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	triglycidyl isocyanurate	Triglycidyl isocyanurate (TGIC)	0.08 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	C.I. Pigment Black 26	Manganese fume, dust and compounds, as Mn	0.2 mg/m3	Not Available	Not Available	oto - Ototoxin
New Zealand Workplace Exposure Standards (WES)	C.I. Pigment Black 26	Manganese fume, dust and compounds, as Mn respirable dust	0.02 mg/m3	Not Available	Not Available	oto - Ototoxin

MATERIAL DATA

Exposure controls

Appropriate engineering controls

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 is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.
- Exhaust ventilation should be designed to prevent accumulation and recirculation of particulates in the workplace.
- If in spite of local exhaust an adverse concentration of the substance in air could occur, respiratory protection should be considered. Such protection might consist of:

(a): particle dust respirators, if necessary, combined with an absorption cartridge;
(b): filter respirators with absorption cartridge or canister of the right type;
(c): fresh-air hoods or masks

- Build-up of electrostatic charge on the dust particle, may be prevented by bonding and grounding.
- Powder handling equipment such as dust collectors, dryers and mills may require additional protection measures such as explosion venting.

Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to efficiently remove the contaminant.

Type of Contaminant:	Air Speed:
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 ft/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 ft/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 4-10 m/s (800-2000 ft/min) for extraction of crusher dusts generated 2 metres 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.

Individual protection measures, such as personal protective equipment

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Eye and face protection	▸ 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	See Hand protection below
Hands/feet protection	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. · 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 · Poor when glove material degrades For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended. 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. 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. Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example: · 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. · 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 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. Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present. ▸ polychloroprene. ▸ nitrile rubber. ▸ butyl rubber. ▸ fluorocaoutchouc. ▸ polyvinyl chloride. Gloves should be examined for wear and/ or degradation constantly.
Body protection	See Other protection below
Other protection	▸ Overalls. ▸ P.V.C apron. ▸ Barrier cream. ▸ Skin cleansing cream. ▸ Eye wash unit.

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 ***computer-generated*** selection:
Ecoply Barrier H3.2 CCA Treated Plywood

Material	CPI
BUTYL	A

Respiratory protection

· Respirators may be necessary when engineering and administrative controls do not adequately prevent exposures.

· The decision to use respiratory protection should be based on professional judgment that takes into account toxicity information, exposure measurement data, and frequency and likelihood of the worker's exposure - ensure users are not subject to high thermal loads which may result in heat stress or distress due to personal protective equipment (powered, positive flow, full face apparatus may be an option).

Continued...

NATURAL RUBBER	A
NITRILE+PVC	A
PVC	A
NITRILE	B

* 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.

· Published occupational exposure limits, where they exist, will assist in determining the adequacy of the selected respiratory protection. These may be government mandated or vendor recommended.
· Certified respirators will be useful for protecting workers from inhalation of particulates when properly selected and fit tested as part of a complete respiratory protection program.
· Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)
· Use approved positive flow mask if significant quantities of dust becomes airborne.
· Try to avoid creating dust conditions.
Class P2 particulate filters are used for protection against mechanically and thermally generated particulates or both.
P2 is a respiratory filter rating under various international standards, Filters at least 94% of airborne particles
Suitable for:
· Relatively small particles generated by mechanical processes eg. grinding, cutting, sanding, drilling, sawing.
· Sub-micron thermally generated particles e.g. welding fumes, fertilizer and bushfire smoke.
· Biologically active airborne particles under specified infection control applications e.g. viruses, bacteria, COVID-19, SARS

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Plywood manufactured from wood veneers, light to deep green colour (depending on treatment level) with one face and edges powder coated. Potential for slight chemical odour; insoluble in water.

Physical state	Manufactured	**Relative density (Water = 1)**	Not Available
Odour	Slight chemical	**Partition coefficient n-octanol / water**	Not Available
Odour threshold	Not Available	**Auto-ignition temperature (°C)**	>200
pH (as supplied)	Not Applicable	**Decomposition temperature (°C)**	Not Available
Melting point / freezing point (°C)	Not Available	**Viscosity (cSt)**	Not Available
Initial boiling point and boiling range (°C)	Not Applicable	**Molecular weight (g/mol)**	Not Applicable
Flash point (°C)	Not Available	**Taste**	Not Available
Evaporation rate	Not Available	**Explosive properties**	Not Available
Flammability	Not Applicable	**Oxidising properties**	Not Available
Upper Explosive Limit (%)	Not Available	**Surface Tension (dyn/cm or mN/m)**	Not Applicable
Lower Explosive Limit (%)	Not Available	**Volatile Component (%vol)**	Not Available
Vapour pressure (kPa)	Not Available	**Gas group**	Not Available
Solubility in water	Immiscible	**pH as a solution (1%)**	Not Applicable
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	▸ Unstable in the presence of incompatible materials. ▸ Product is considered stable. ▸ Hazardous polymerisation will not occur.

Continued...

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

a) Acute Toxicity	Based on available data, the classification criteria are not met.
b) Skin Irritation/Corrosion	There is sufficient evidence to classify this material as skin corrosive or irritating.
c) Serious Eye Damage/Irritation	There is sufficient evidence to classify this material as eye damaging or irritating
d) Respiratory or Skin sensitisation	Based on available data, the classification criteria are not met.
e) Mutagenicity	Based on available data, the classification criteria are not met.
f) Carcinogenicity	There is sufficient evidence to classify this material as carcinogenic
g) Reproductivity	Based on available data, the classification criteria are not met.
h) STOT - Single Exposure	There is sufficient evidence to classify this material as toxic to specific organs through single exposure
i) STOT - Repeated Exposure	Based on available data, the classification criteria are not met.
j) Aspiration Hazard	Based on available data, the classification criteria are not met.

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. Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled. If prior damage to the circulatory or nervous systems has occurred or if kidney damage has been sustained, proper screenings should be conducted on individuals who may be exposed to further risk if handling and use of the material result in excessive exposures.
Ingestion	The material has **NOT** been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. The material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.
Skin Contact	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. The material may accentuate any pre-existing dermatitis condition
Eye	This material causes serious eye irritation.
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. Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems. Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.

	TOXICITY	IRRITATION
Ecoply Barrier H3.2 CCA Treated Plywood	Not Available	Not Available

	TOXICITY	IRRITATION
phenol/ formaldehyde polymer sodium salt	Not Available	Not Available

Continued...

	TOXICITY	IRRITATION
chromium trioxide	Dermal (rabbit) LD50: 57 mg/kg[1]	Eye: adverse effect observed (irreversible damage)[1]
	Inhalation (Rat) LC50: 0.083 mg/L4h[1]	Skin: adverse effect observed (corrosive)[1]
	Oral (Rat) LD50: 52 mg/kg[1]	Skin: adverse effect observed (irritating)[1]

	TOXICITY	IRRITATION
arsenic acid	Dermal (rabbit) LD50: 1750 mg/kg[1]	Eye: adverse effect observed (irritating)[1]
	Inhalation (Mouse) LC50: 0.794 mg/l4h[1]	Skin: adverse effect observed (corrosive)[1]
	Oral (Rat) LD50: 48 mg/kg[2]	

	TOXICITY	IRRITATION
copper(II) oxide	dermal (rat) LD50: >2000 mg/kg[1]	Not Available
	Oral (Rat) LD50: >2500 mg/kg[1]	

	TOXICITY	IRRITATION
5-chloro-2-methyl-4-isothiazolin-3-one	dermal (rat) LD50: >1008 mg/kg[2]	Eye: adverse effect observed (irreversible damage)[1]
	Inhalation (Rat) LC50: 1.23 mg/l4h[2]	Skin (Human - woman): 0.01%
	Oral (Rat) LD50: 53 mg/kg[2]	Skin (Human): 0.01% - Severe
		Skin (Human): 0.1%/48H
		Skin: adverse effect observed (corrosive)[1]
		Skin: adverse effect observed (irritating)[1]

	TOXICITY	IRRITATION
barium sulfate	dermal (rat) LD50: >2000 mg/kg[1]	Eye: no adverse effect observed (not irritating)[1]
	Oral (Mouse) LD50; >3000 mg/kg[2]	Skin: no adverse effect observed (not irritating)[1]

	TOXICITY	IRRITATION
C.I. Pigment White 6	dermal (hamster) LD50: >=10000 mg/kg[2]	Eye: no adverse effect observed (not irritating)[1]
	Inhalation (Rat) LC50: >2.28 mg/l4h[1]	Skin (Human): 300ug/3D (intermittent) - Mild
	Oral (Rat) LD50: >=2000 mg/kg[1]	Skin: no adverse effect observed (not irritating)[1]

	TOXICITY	IRRITATION
triglycidyl isocyanurate	dermal (rat) LD50: >2000 mg/kg[1]	Eye (Rodent - rabbit): 100mg - Severe
	Inhalation (Rat) LC50: 0.65 mg/L4h[2]	Eye: adverse effect observed (irritating)[1]
	Oral (Rat) LD50: <100 mg/kg[2]	Skin: adverse effect observed (irritating)[1]

	TOXICITY	IRRITATION
C.I. Pigment Black 26	Not Available	Eye: no adverse effect observed (not irritating)[1]
		Skin: no adverse effect observed (not irritating)[1]

Legend:	***1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances***

CHROMIUM TRIOXIDE

WARNING: This substance has been classified by the IARC as Group 1: **CARCINOGENIC TO HUMANS**.

ARSENIC ACID

NOTE: OSHA Cancer Hazard.
Arsenic compounds are classified by the European Union as toxic by inhalation and ingestion and toxic to aquatic life and long lasting in the environment. IARC classify arsenic in drinking water as a confirmed human carcinogen (IARC 1).

The main inorganic forms of arsenic relevant for human exposures are pentavalent arsenic (also called arsenate, As(V), or As+5) and trivalent arsenic (also called arsenite, As(III), or As+3). These inorganic species undergoes a series of reduction and oxidative/methylation steps in human liver and other tissues to form tri- and pentavalent methylated metabolites of methylarsonite [MA(III)], methylarsonate [MA(V)], dimethylarsinite [DMA(III)], and dimethylarsinate [DMA(V)]. Some mammalian species also produce trimethylated metabolites, trimethylarsine oxide

Continued...

	The distinction between inorganic and organic forms is important because it is generally accepted that the organic species are excreted more quickly from the body and generally considered less toxic, with a relative rank order of As(III) > As(V) >> MA(V), DMA(V) >> arsenobetaine. However, the methylated trivalent metabolites, MA(III) and DMA(III), are significantly more toxic than their pentavalent counterpart and either As(III) or As(V) . In many cases, biomonitoring or environmental occurrence data are reported as total arsenic and do not distinguish between the different species. In those situations, understanding the relevant sources of arsenic is essential to evaluate potential arsenic related health effects, especially those related to inorganic arsenic exposure.
5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE	Considered to be the major sensitiser in Kathon CG (1) (1). Bruze etal - Contact Dermatitis 20: 219-39, 1989 Based on laboratory and animal testing, exposure to the material may result in irreversible effects and mutations in humans. In light of potential adverse effects, and to ensure a harmonised risk assessment and management, the EU regulatory framework for biocides 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 are the utilization instructions that defines the dosage, application method and amount of applications and thus the exposure of humans and the environment to the biocidal substance. Humans may be exposed to biocidal products in different ways in both occupational and domestic settings. Many biocidal products are intended for industrial sectors or professional uses only, whereas other biocidal products are commonly available for private use by non-professional users. In addition, potential exposure of non-users of biocidal products (i.e. the general public) may occur indirectly via the environment, for example through drinking water, the food chain, as well as through atmospheric and residential exposure. Particular attention should be paid to the exposure of vulnerable sub-populations, such as the elderly, pregnant women, and children. Also pets and other domestic animals can be exposed indirectly following the application of biocidal products. Furthermore, exposure to biocides may vary in terms of route (inhalation, dermal contact, and ingestion) and pathway (food, drinking water, residential, occupational) of exposure, level, frequency and duration. Formaldehyde generators (releasers) are often used as preservatives. The maximum authorised concentration of free formaldehyde is 0.2% and must be labelled with the warning sign "contains formaldehyde" where the concentration exceeds 0.05%.The use of formaldehyde-releasing preservatives ensures that the level of free formaldehyde in the products is always low but sufficient to inhibit microbial growth - it disrupts metabolism to cause death of the organism. However there is a concern that formaldehyde generators can produce amines capable of causing cancers (nitrosamines) when used in formulations containing amines. The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.
C.I. PIGMENT WHITE 6	Substance has been investigated as a mutagen, tumorigen and primary irritant. For titanium dioxide: Humans can be exposed to titanium dioxide via inhalation, ingestion or dermal contact. In human lungs, the clearance kinetics of titanium dioxide is poorly characterized relative to that in experimental animals. (General particle characteristics and host factors that are considered to affect deposition and retention patterns of inhaled, poorly soluble particles such as titanium dioxide are summarized in the monograph on carbon black.) With regard to inhaled titanium dioxide, human data are mainly available from case reports that showed deposits of titanium dioxide in lung tissue as well as in lymph nodes. A single clinical study of oral ingestion of fine titanium dioxide showed particle size-dependent absorption by the gastrointestinal tract and large interindividual variations in blood levels of titanium dioxide. Studies on the application of sunscreens containing ultrafine titanium dioxide to healthy skin of human volunteers revealed that titanium dioxide particles only penetrate into the outermost layers of the stratum corneum, suggesting that healthy skin is an effective barrier to titanium dioxide. There are no studies on penetration of titanium dioxide in compromised skin. Respiratory effects that have been observed among groups of titanium dioxide-exposed workers include decline in lung function, pleural disease with plaques and pleural thickening, and mild fibrotic changes. However, the workers in these studies were also exposed to asbestos and/or silica. No data were available on genotoxic effects in titanium dioxide-exposed humans. Many data on deposition, retention and clearance of titanium dioxide in experimental animals are available for the inhalation route. Titanium dioxide inhalation studies showed differences — both for normalized pulmonary burden (deposited mass per dry lung, mass per body weight) and clearance kinetics — among rodent species including rats of different size, age and strain. Clearance of titanium dioxide is also affected by pre-exposure to gaseous pollutants or co-exposure to cytotoxic aerosols. Differences in dose rate or clearance kinetics and the appearance of focal areas of high particle burden have been implicated in the higher toxic and inflammatory lung responses to intratracheally instilled vs inhaled titanium dioxide particles. Experimental studies with titanium dioxide have demonstrated that rodents experience dose-dependent impairment of alveolar macrophage-mediated clearance. Hamsters have the most efficient clearance of inhaled titanium dioxide. Ultrafine primary particles of titanium dioxide are more slowly cleared than their fine counterparts. Titanium dioxide causes varying degrees of inflammation and associated pulmonary effects including lung epithelial cell injury, cholesterol granulomas and fibrosis. Rodents experience stronger pulmonary effects after exposure to ultrafine titanium dioxide particles compared with fine particles on a mass basis. These differences are related to lung burden in terms of particle surface area, and are considered to result from impaired phagocytosis and sequestration of ultrafine particles into the interstitium. Fine titanium dioxide particles show minimal cytotoxicity to and inflammatory/pro-fibrotic mediator release from primary human alveolar macrophages in vitro compared with other particles. Ultrafine titanium dioxide particles inhibit phagocytosis of alveolar macrophages in vitro at mass dose concentrations at which this effect does not occur with fine titanium dioxide. In-vitro studies with fine and ultrafine titanium dioxide and purified DNA show induction of DNA damage that is suggestive of the generation of reactive oxygen species by both particle types. This effect is stronger for ultrafine than for fine titanium oxide, and is markedly enhanced by exposure to simulated sunlight/ultraviolet light. **Animal carcinogenicity data** Pigmentary and ultrafine titanium dioxide were tested for carcinogenicity by oral administration in mice and rats, by inhalation in rats and female mice, by intratracheal administration in hamsters and female rats and mice, by subcutaneous injection in rats and by intraperitoneal administration in male mice and female rats. In one inhalation study, the incidence of benign and malignant lung tumours was increased in female rats. In another inhalation study, the incidences of lung adenomas were increased in the high-dose groups of male and female rats. Cystic keratinizing lesions that were diagnosed as squamous-cell carcinomas but re-evaluated as non-neoplastic pulmonary keratinizing cysts were also observed in the high-dose groups of female rats. Two inhalation studies in rats and one in female mice were negative.

Continued...

Intratracheally instilled female rats showed an increased incidence of both benign and malignant lung tumours following treatment with two types of titanium dioxide. Tumour incidence was not increased in intratracheally instilled hamsters and female mice.

In-vivo studies have shown enhanced micronucleus formation in bone marrow and peripheral blood lymphocytes of intraperitoneally instilled mice. Increased Hprt mutations were seen in lung epithelial cells isolated from titanium dioxide-instilled rats. In another study, no enhanced oxidative DNA damage was observed in lung tissues of rats that were intratracheally instilled with titanium dioxide. The results of most in-vitro genotoxicity studies with titanium dioxide were negative.

The substance is classified by IARC as Group 3:

NOT classifiable as to its carcinogenicity to humans.

Evidence of carcinogenicity may be inadequate or limited in animal testing.

TRIGLYCIDYL ISOCYANURATE

* TGIC Full Public Report: NICNAS (Australia) April 1994; ** [Manufacturer]

Oxiranes (including glycidyl ethers and alkyl oxides, and epoxides) exhibit many common characteristics with respect to animal toxicology. One such oxirane is ethyloxirane; data presented here may be taken as representative.

for 1,2-butylene oxide (ethyloxirane):

Ethyloxirane increased the incidence of tumours of the respiratory system in male and female rats exposed via inhalation. Significant increases in nasal papillary adenomas and combined alveolar/bronchiolar adenomas and carcinomas were observed in male rats exposed to 1200 mg/m3 ethyloxirane via inhalation for 103 weeks. There was also a significant positive trend in the incidence of combined alveolar/bronchiolar adenomas and carcinomas. Nasal papillary adenomas were also observed in 2/50 high-dose female rats with none occurring in control or low-dose animals. In mice exposed chronically via inhalation, one male mouse developed a squamous cell papilloma in the nasal cavity (300 mg/m3) but other tumours were not observed. Tumours were not observed in mice exposed chronically via dermal exposure. When trichloroethylene containing 0.8% ethyloxirane was administered orally to mice for up to 35 weeks, followed by 0.4% from weeks 40 to 69, squamous-cell carcinomas of the forestomach occurred in 3/49 males (p=0.029, age-adjusted) and 1/48 females at week 106. Trichloroethylene administered alone did not induce these tumours and they were not observed in control animals . Two structurally related substances, oxirane (ethylene oxide) and methyloxirane (propylene oxide), which are also direct-acting alkylating agents, have been classified as carcinogenic

When 14C-labelled a -TGIC was administrated to rabbits by stomach tube, no parent drug was detected in plasma. Plasma concentration of metabolites were lower compared to those observed following i.v. administration.

In a study in mice at least 17% of the administered dose was absorbed within 24 hours. TGIC was distributed to the liver, stomach and testes (the only tissues studied). Eight hours after treatment no free TGIC was detected.

Metabolism:

TGIC metabolism seem to involve hydrolysis catalysed by microsomal epoxide hydrolase. In a recently conducted study, induction of epoxide hydrolase activity in rat livers was associated with increased hydrolysis of TGIC. However, this study only examined oral and intraperitoneal administration and did not consider dermal and inhalational exposure.

alpha -TGIC was metabolised in vitro by rat liver, but not lung, microsomal preparations by an NADPH-independent pathway. Epoxide hydrolysis metabolites were detected in the microsomal incubations, and cyclohexene oxide, a known inhibitor of microsomal epoxide hydrolases, inhibited alpha -TGIC metabolism. Epoxide hydrolase activity in some human tissues may be higher than in rodent tissues. There is considerable variation in epoxide hydrolase activity between tissues and also significant (approximately 100-fold) interindividual variation of epoxide hydrolase activity in humans.

Excretion:

When 14C-labelled a -TGIC was administrated to rabbits by stomach tube, no parent drug was detected in plasma. Twenty-four-hour urinary recovery of radioactivity was about 30%.

When humans were given i.v. administration of a -TGIC in doses up to 500 mg/m2 (= 15 mg/kg bw, calculated by using a standard weight of 60 kg and a standard surface area of 1.85 m2), less than 1 % alpha -TGIC is recovered in 24-hour urine. In a phase I anticancer clinical trial with alpha -TGIC, i.v. infusion of 2000 mg/m2 (= 62 mg/kg bw, calculated) administered over 2-3 hours was measured during the study to correspond to a plasma concentration of about 1mg/ml.

When 14C-labelled a -TGIC is administrated to rabbits by i.v. infusion, twenty-four-hour urinary recovery of parent drug is < 1%, while urinary recovery of 14C total radioactivity is 60 to 70%.

Half-life:

Rapid plasma elimination (t½< 5min.) and total body clearance (about 5 litres/min.) are observed following i.v. administration of alpha -TGIC to humans in doses up to 500 mg/m2 (= 15 mg/kg, calculated). When 14C-labelled alpha -TGIC is administrated to rabbits by i.v. infusion, plasma disappearance of parent drug is very rapid (t½< 5min.), while metabolites in the plasma are eliminated at a much slower rate (t½> 60 min.).

Toxicological mechanisms:

The cytotoxicity of TGIC is probably related to the alkylating capacity of the epoxide moieties . alpha -TGIC was shown to alkylate a model compound 4-(p-nitrobenzyl)pyridine. E. coli strains defective in UV repair function were much more sensitive to a -TGIC than were the nondefective strains, suggesting that DNA may be the target of drug action. However, no in vitro interaction between a -TGIC and DNA or its components could be detected under physiological conditions by using a variety of biochemical and physicochemical techniques. Two in vivo studies have demonstrated that TGIC is capable of covalently binding to DNA in mouse liver, stomach and testis tissues following oral administration and in rat liver tissue following intraperitoneal or oral administration.

Reproductive and developmental effects:

In a dominant lethal test, technical grade TGIC (in arachid oil) was administered by single gavage at doses of 0, 160 and 480 mg/kg b.w. to groups of 20 male Tif MAGf(SPF) mice. These mice were mated over three periods of 6 days to 40 female mice per dose group. The female mice were replaced at the end of each period. Females were killed on day 14 of gestation and the numbers of live and dead foetuses and foetal resorptions were noted. Females mated to males given 480 mg/kg of TGIC during the first period showed a significant increase in the number of embryonic deaths, compared with the negative control. No increase was seen in the females mated in the second and third periods at the same dose, nor in the females in the other treated groups.

In a second dominant lethal test, technical grade TGIC (in peanut oil) was administered by single gavage at doses of 0, 138, 275 and 550 mg/kg b.w. to groups of 20 male ICR mice. These mice were mated over three periods of 5 days to 40 female mice per dose group. The female mice were replaced at the end of each period. No significant difference was observed in the number of embryonic deaths in test groups compared to the negative control.

In a third dominant lethal test, 10% TGIC in powder coating (doses of 0, 100, 1000, or 1700 mg/m3) was administered by whole body inhalational exposure to dust for six hours per day for five consecutive days to 30 male CD-1 mice per group. Following treatment each male was mated to two virgin females for eight weekly periods with the females being replaced at the end of each

Continued...

period. No increase in embryonic deaths was observed except in the positive control group and therefore TGIC did not induce heritable dominant lethal mutations under the conditions of the experiments.

In a fourth dominant lethal test, technical grade TGIC (doses of 0, 2.5, 10, or 50 mg/m3) was administered by whole body inhalational exposure to dust for six hours per day for five consecutive days to 30 male CD-1 mice per group. Following treatment each male was mated to two virgin females for eight weekly periods with the females being replaced at the end of each period. TGIC did not induce heritable dominant lethal mutations. There was a slight increase in the number of non-viable implants and early resorptions in the third mating week, but this was not statistically significant. The study showed reduced fertility in males at 10 and 50 mg/m3 as seen by reduced number of males impregnating females in some of the mating weeks and a non-significant ten percent reduction in testes weight in the 50 mg/m3 group. The reductions in fertility were consistent with an effect on mature sperm, maturing spermatids and Type B spermatogonia at the 50 mg/m3 level and with Type B spermatogonia at the 10 mg/m3 level.

In a 13-week toxicity/fertility study, groups of 10 male rats were given diets containing 0, 10, 30, or 100 ppm (0, 0.5, 1.5 or 5 mg/kg b.w., calculated) TGIC. This study followed a preliminary 19-day range-finding investigation in which signs of toxicity were observed in animals administered diets containing 160 or 640 ppm TGIC. In the full study after 64 days of treatment, each male was placed with two females until mating occurred. The females were then allocated to two subgroups (caesarean or normal delivery) on day 19 of pregnancy. Females from the caesarean group were killed on day 20 of pregnancy and the ovaries and uterus examined . The other group was allowed to deliver normally and the pups were examined for clinical signs and development. Between 22 and 25 days postpartum, the females in the normal delivery group were sacrificed and examined. In males at autopsy, all organs were examined in the high-dose and control groups. No exposure-related clinical effects or death were observed. Body weight gain was slightly lower over the first 6 weeks in animals from the 100 ppm test group. A dose-related reduction in the number of spermatozoa was noted but the spermatozoa viability was unchanged. No exposure-related infertility was noted in males, and no effects on embryonic and pup development were observed in the offspring. The highest concentration used in this study was not a maximum tolerated dose.

Mutagenic and genotoxic effects:

In vitro tests

Technical grade TGIC (dissolved in DMSO) was positive in two Ames tests using five strains (TA1535, TA1538, TA1537, TA98 and TA100) of Salmonella typhimurium when tested both with and without metabolic activation systems.

When tested in mammalian cells, technical grade TGIC (dissolved in DMSO) was positive in the mouse lymphoma assay with and without metabolic activation systems, in chromosome aberration and sister chromatid exchange tests in Chinese hamster ovary cells with and without metabolic activation systems, and for unscheduled DNA synthesis in rat hepatocytes. Technical grade TGIC dissolved in DMSO also tested positive in a chromosome aberration assay in Chinese hamster lung cells without metabolic activation systems but was negative with metabolic activation. A reduction in the response to treatment was noted in the mouse lymphoma assay and in the two assays in Chinese hamster ovary cells when metabolic activation was present. TGIC was negative in two cell transformation assays in mouse embryo fibroblasts.

In human cells, technical grade TGIC tested negative in a chromosomal aberrations assay in human lymphocyte cultures (TGIC doses between 0.063 and 10 mg/ml) and for unscheduled DNA synthesis in human fibroblast cultures (TGIC doses between 2.7 and 400 mg/ml) without metabolic activation systems.

In vivo tests.

Technical grade TGIC was shown to be clastogenic in a nucleus anomaly test in Chinese hamsters. TGIC (in arachid oil) was administered by gavage to groups of three animals of each sex at dose levels of 0, 140, 280 or 560 mg/kg b.w./day for two days. The animals were sacrificed 24 hours after the second dose and femoral bone marrow samples were taken. One thousand bone marrow cells were scored per animal. Nuclear anomalies for the intermediate and high dose groups were significantly different from the negative control.

Two studies were conducted to determine the ability of technical grade TGIC to induce sister chromatid exchanges (SCEs) in the bone marrow cells of Chinese hamsters. In each study, TGIC was suspended in arachid oil and administered by gavage. Twenty-five cells per animal were scored for SCEs. In one study, four animals of each sex per dose were treated with TGIC at dose levels of 0, 35, 70 and 140 mg/kg b.w.. In this study, no increases in the number of SCEs were observed. In the second study, groups of two animals per sex were treated with TGIC at doses of 0, 140, 280 and 560 mg/kg b.w. and a dose-related positive effect was observed.

Four oral and four inhalational studies have been conducted to determine chromosomal aberrations in mouse germ cells in animals exposed to technical grade TGIC in vivo.

In tree chromosomal aberration studies, male mice were dosed orally with TGIC by gavage on five consecutive days in doses ranging between 0 and 350 mg/kg b.w. Chromosomal aberrations in the spermatogonia were observed in a dose-related manner starting at about 30 mg/kg b.w. Cytotoxicity was first observed at 57.5 mg/kg b.w.

In another chromosomal aberration study, groups of 15 male mice were given TGIC (in arachid oil) by gavage at dose levels of 0, 32 or 96 mg/kg b.w. on days 0, 2, 3, 5 and 9. Animals were killed 3 days after the final dose and tested for chromosomal aberrations in their spermatocytes. The results of this study were negative.

In an inhalational chromosomal aberration study, groups of 10 male CD-1 mice were whole body exposed to technical grade TGIC at concentrations of 0, 2.5, 10 and 50 mg/m3 for 6 hours/day for five days. The particle size range of TGIC was 2.5 to 3.5 µm. Animals were killed six hours after the end of the last exposure. The results of this study were inconclusive mainly because statistical analysis could not include the 10 and 50 mg/m3 groups due to a small number of animals in these groups with a sufficient number of scorable cells (>50 per animal). No statistically significant aberrations were found in the 2.5 mg/m3 group. The study suggests TGIC was cytotoxic to spermatogonial cells at doses of 10 and 50 mg/m3. However, the cytotoxic ratios were not calculated.

In a second inhalational chromosomal aberration study, groups of 10 CD-1 male mice were whole body exposed to atmospheres containing 0, 100, 1000 or 1700 mg/m3 powder coating containing 10 % TGIC for 6 hours/ day for five days. The animals were killed six hours after the last exposure period. The test material significantly increased the number of chromosomal aberrations in spermatogonial cells of the animals exposed to 1700 mg/m3 powder coating but as for the above mentioned study, the number of animals with enough scorable cells was very low.

Carcinogenic effects:

2.5% TGIC did not promote skin tumour formation in CF-1 mice painted twice weekly for 26 weeks. Four groups of 24 mice of each sex had a tumour initiating agent applied dermally to their shaved backs. Three weeks later (and twice weekly for the next 26 weeks), these mice were painted with either 2.5% TGIC, 2.5% of a tumour promoting agent, solvent or received no secondary treatment. After 27 weeks, the mice were killed and the skin from the treated areas was examined microscopically. Only mice who received the tumour promoting agent developed skin tumours. Of those mice exposed to TGIC, one female showed severe acanthosis and two males showed ulceration.

Continued...

PHENOL/ FORMALDEHYDE POLYMER SODIUM SALT & ARSENIC ACID & COPPER(II) OXIDE & 5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE & BARIUM SULFATE & C.I. PIGMENT BLACK 26	No significant acute toxicological data identified in literature search.
CHROMIUM TRIOXIDE & 5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE & TRIGLYCIDYL ISOCYANURATE	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 urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.
CHROMIUM TRIOXIDE & COPPER(II) OXIDE & 5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE	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 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, cough and mucus production.
CHROMIUM TRIOXIDE & TRIGLYCIDYL ISOCYANURATE	Allergic reactions which develop in the respiratory passages as bronchial asthma or rhinoconjunctivitis, are mostly the result of reactions of the allergen with specific antibodies of the IgE class and belong in their reaction rates to the manifestation of the immediate type. In addition to the allergen-specific potential for causing respiratory sensitisation, the amount of the allergen, the exposure period and the genetically determined disposition of the exposed person are likely to be decisive. Factors which increase the sensitivity of the mucosa may play a role in predisposing a person to allergy. They may be genetically determined or acquired, for example, during infections or exposure to irritant substances. Immunologically the low molecular weight substances become complete allergens in the organism either by binding to peptides or proteins (haptens) or after metabolism (prohaptens). Particular attention is drawn to so-called atopic diathesis which is characterised by an increased susceptibility to allergic rhinitis, allergic bronchial asthma and atopic eczema (neurodermatitis) which is associated with increased IgE synthesis. Exogenous allergic alveolitis is induced essentially by allergen specific immune-complexes of the IgG type; cell-mediated reactions (T lymphocytes) may be involved. Such allergy is of the delayed type with onset up to four hours following exposure.

Acute Toxicity	✗	**Carcinogenicity**	✓
Skin Irritation/Corrosion	✓	**Reproductivity**	✗
Serious Eye Damage/Irritation	✓	**STOT - Single Exposure**	✓
Respiratory or Skin sensitisation	✗	**STOT - Repeated Exposure**	✗
Mutagenicity	✗	**Aspiration Hazard**	✗

Legend: ✗ ***– Data either not available or does not fill the criteria for classification***
✓ ***– Data available to make classification***

SECTION 12 Ecological information

Toxicity

	Endpoint	Test Duration (hr)	Species	Value	Source
Ecoply Barrier H3.2 CCA Treated Plywood	Not Available	Not Available	Not Available	Not Available	Not Available
phenol/ formaldehyde polymer sodium salt	Not Available	Not Available	Not Available	Not Available	Not Available
chromium trioxide	BCF	1008h	Fish	4.6-15	7
	EC50	72h	Algae or other aquatic plants	0.38mg/l	2
	NOEC(ECx)	72h	Crustacea	0.005mg/L	4
	EC50	96h	Algae or other aquatic plants	0.71mg/L	4
	LC50	96h	Fish	13mg/l	2

Continued...

	Endpoint	Test Duration (hr)	Species	Value	Source
arsenic acid	EC50	72h	Algae or other aquatic plants	>2mg/L	2
	EC50	48h	Crustacea	13.7-19.15mg/L	4
	EC50	96h	Algae or other aquatic plants	0.159mg/L	2
	NOEC(ECx)	336h	Algae or other aquatic plants	0.01mg/l	2
	LC50	96h	Fish	~28mg/l	2

	Endpoint	Test Duration (hr)	Species	Value	Source
copper(II) oxide	EC50	72h	Algae or other aquatic plants	0.014mg/l	4
	EC50	48h	Crustacea	0.001mg/L	2
	EC50(ECx)	48h	Crustacea	0.001mg/L	2
	EC50	96h	Algae or other aquatic plants	0.047mg/l	2
	LC50	96h	Fish	0.003mg/L	2

	Endpoint	Test Duration (hr)	Species	Value	Source
5-chloro-2-methyl-4-isothiazolin-3-one	NOEC(ECx)	504h	Crustacea	0.172mg/l	1
	EC50	72h	Algae or other aquatic plants	0.018-0.026mg/L	4
	EC50	48h	Crustacea	4.71mg/l	1
	EC50	96h	Algae or other aquatic plants	0.03-0.13mg/L	4
	LC50	96h	Fish	0.13-0.31mg/L	4

	Endpoint	Test Duration (hr)	Species	Value	Source
barium sulfate	EC50	72h	Algae or other aquatic plants	>1.15mg/l	2
	EC50	48h	Crustacea	32mg/L	2
	NOEC(ECx)	72h	Algae or other aquatic plants	>=1.15mg/l	2
	LC50	96h	Fish	>3.5mg/l	2

	Endpoint	Test Duration (hr)	Species	Value	Source
C.I. Pigment White 6	BCF	1008h	Fish	<1.1-9.6	7
	EC50	72h	Algae or other aquatic plants	3.75-7.58mg/l	4
	EC50	48h	Crustacea	1.9mg/l	2
	NOEC(ECx)	672h	Fish	>=0.004mg/L	2
	EC50	96h	Algae or other aquatic plants	179.05mg/l	2
	LC50	96h	Fish	1.85-3.06mg/l	4

	Endpoint	Test Duration (hr)	Species	Value	Source
triglycidyl isocyanurate	EC50(ECx)	72h	Algae or other aquatic plants	>29<30mg/l	2
	EC50	72h	Algae or other aquatic plants	>29<30mg/l	2
	LC50	96h	Fish	>77mg/l	2

	Endpoint	Test Duration (hr)	Species	Value	Source
C.I. Pigment Black 26	EC50	72h	Algae or other aquatic plants	18mg/l	2
	EC50	48h	Crustacea	>100mg/l	2
	NOEC(ECx)	504h	Fish	0.52mg/l	2
	LC50	96h	Fish	0.05mg/l	2

Legend: ***Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. US EPA, Ecotox database - Aquatic Toxicity Data 4. ECETOC Aquatic Hazard Assessment Data 5. NITE (Japan) - Bioconcentration Data 6. METI (Japan) - Bioconcentration Data 7. Vendor Data***

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
copper(II) oxide	HIGH	HIGH

Continued...

Ingredient	**Persistence: Water/Soil**	**Persistence: Air**
5-chloro-2-methyl-4-isothiazolin-3-one	HIGH	HIGH
C.I. Pigment White 6	HIGH	HIGH
triglycidyl isocyanurate	HIGH	HIGH

Bioaccumulative potential

Ingredient	**Bioaccumulation**
chromium trioxide	LOW (BCF = 21)
copper(II) oxide	LOW (BCF = 2.514)
5-chloro-2-methyl-4-isothiazolin-3-one	LOW (LogKOW = 0.0444)
C.I. Pigment White 6	LOW (BCF = 10)
triglycidyl isocyanurate	LOW (LogKOW = 1.2052)

Mobility in soil

Ingredient	**Mobility**
copper(II) oxide	LOW (Log KOC = 14.3)
5-chloro-2-methyl-4-isothiazolin-3-one	LOW (Log KOC = 45.15)
C.I. Pigment White 6	LOW (Log KOC = 23.74)
triglycidyl isocyanurate	LOW (Log KOC = 10)

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	‣ Recycle wherever possible. ‣ 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. ‣ Dispose of by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material) ‣ 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. Maritime transport in bulk according to IMO instruments

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

Not Applicable

Continued...

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

Product name	Group
phenol/ formaldehyde polymer sodium salt	Not Applicable
chromium trioxide	Not Applicable
arsenic acid	Not Applicable
copper(II) oxide	Not Applicable
5-chloro-2-methyl-4-isothiazolin-3-one	Not Applicable
barium sulfate	Not Applicable
C.I. Pigment White 6	Not Applicable
triglycidyl isocyanurate	Not Applicable
C.I. Pigment Black 26	Not Applicable

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
phenol/ formaldehyde polymer sodium salt	Not Applicable
chromium trioxide	Not Applicable
arsenic acid	Not Applicable
copper(II) oxide	Not Applicable
5-chloro-2-methyl-4-isothiazolin-3-one	Not Applicable
barium sulfate	Not Applicable
C.I. Pigment White 6	Not Applicable
triglycidyl isocyanurate	Not Applicable
C.I. Pigment Black 26	Not Applicable

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
HSR002512	Additives Process Chemicals and Raw Materials 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.

phenol/ formaldehyde polymer sodium salt is found on the following regulatory lists

New Zealand Inventory of Chemicals (NZIoC)

chromium trioxide is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List
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 1: Carcinogenic to humans
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)

arsenic acid is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List
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 1: Carcinogenic to humans
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)

Continued...

copper(II) oxide is found on the following regulatory lists

International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)
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 Land Transport Rule: Dangerous Goods 2005 - Schedule 1 Quantity limits for dangerous goods
New Zealand Workplace Exposure Standards (WES)

5-chloro-2-methyl-4-isothiazolin-3-one 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)

barium sulfate is found on the following regulatory lists

International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)
New Zealand Inventory of Chemicals (NZIoC)
New Zealand Workplace Exposure Standards (WES)

C.I. Pigment White 6 is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List
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 Inventory of Chemicals (NZIoC)
New Zealand Workplace Exposure Standards (WES)

triglycidyl isocyanurate is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)
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)

C.I. Pigment Black 26 is found on the following regulatory lists

New Zealand Inventory of Chemicals (NZIoC)
New Zealand Workplace Exposure Standards (WES)

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

Continued...

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (phenol/ formaldehyde polymer sodium salt; chromium trioxide; arsenic acid; copper(II) oxide; 5-chloro-2-methyl-4-isothiazolin-3-one; barium sulfate; C.I. Pigment White 6; triglycidyl isocyanurate; C.I. Pigment Black 26)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	No (phenol/ formaldehyde polymer sodium salt)
Japan - ENCS	No (phenol/ formaldehyde polymer sodium salt; C.I. Pigment Black 26)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	No (phenol/ formaldehyde polymer sodium salt)
USA - TSCA	All chemical substances in this product have been designated as TSCA Inventory ‘Active'
Taiwan - TCSI	Yes
Mexico - INSQ	No (phenol/ formaldehyde polymer sodium salt)
Vietnam - NCI	No (phenol/ formaldehyde polymer sodium salt)
Russia - FBEPH	No (phenol/ formaldehyde polymer sodium salt; C.I. Pigment Black 26)
UAE - Control List (Banned/Restricted Substances)	No (phenol/ formaldehyde polymer sodium salt; chromium trioxide; copper(II) oxide; 5-chloro-2-methyl-4-isothiazolin-3-one; barium sulfate; C.I. Pigment White 6; triglycidyl isocyanurate; C.I. Pigment Black 26)
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	20/01/2026
Initial Date	23/12/2025

SDS Version Summary

Version	Date of Update	Sections Updated
3.1	20/01/2026	Hazards identification - Classification

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

Continued...

- MARPOL: International Convention for the Prevention of Pollution from Ships
- IMSBC: International Maritime Solid Bulk Cargoes Code
- IGC: International Gas Carrier Code
- IBC: International Bulk Chemical Code

- 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
- 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