

Dy-Mark

Chemwatch Hazard Alert Code: 3

Chemwatch: **5545-14** Version No: **3.1** Safety Data Sheet according to WHS Regulations (Hazardous Chemicals) Amendment 2020 and ADG requirements Issue Date: 27/05/2022 Print Date: 30/05/2022 S.GHS.AUS.EN.E

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

Product Identifier

Product name	Dy-Mark Industrial Marker D10 - Black	
Chemical Name	Not Applicable	
Synonyms	Item Code: 12081001	
Chemical formula	Not Applicable	
Other means of identification	Not Available	

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

	Marking pen containing 20ml ink. Information on this MSDS refers to ink used in this marker pen, however, it applies to these inks in bulk. The
Relevant identified uses	inks are contained in capillary or valve reservoirs and will not spill or leak under normal conditions.
	Use according to manufacturer's directions.

Details of the supplier of the safety data sheet

Registered company name	Dy-Mark	
Address	89 Formation Street Wacol QLD 4076 Australia	
Telephone	+61 7 3327 3004	
Fax	+61 7 3327 3009	
Website	http://www.dymark.com.au	
Email	info@dymark.com.au	

Emergency telephone number

Association / Organisation	Dy-Mark
Emergency telephone numbers	+61 7 3327 3099
Other emergency telephone numbers	Not Available

SECTION 2 Hazards identification

Classification of the substance or mixture

HAZARDOUS CHEMICAL. NON-DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.

ChemWatch Hazard Ratings

	Min	Max	
Flammability	3		
Toxicity	1	1	0 = Minimum
Body Contact	2		1 = Low
Reactivity	1		2 = Moderate
Chronic	2	1	3 = High 4 = Extreme

Poisons Schedule	Not Applicable	
Classification ^[1]	Ration [1] Flammable Liquids Category 2, Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2A, Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3, Hazardous to the Aquatic Environment Long-Term Hazard Category 3	
Legend:	1. Classified by Chernwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI	

Label elements

Hazard pictogram(s)



Hazard statement(s)	
H225	Highly flammable liquid and vapour.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statement(s) Prevention

Signal word Danger

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.	
P271	Use only outdoors or in a well-ventilated area.	
P240	Ground and bond container and receiving equipment.	
P241	Use explosion-proof electrical/ventilating/lighting/intrinsically safe equipment.	
P242	Use non-sparking tools.	
P243	Take action to prevent static discharges.	
P261	P261 Avoid breathing mist/vapours/spray.	
P273	Avoid release to the environment.	
P280	Wear protective gloves, protective clothing, eye protection and face protection.	
P264	Wash all exposed external body areas thoroughly after handling.	

Precautionary statement(s) Response

P370+P378	In case of fire: Use alcohol resistant foam or normal protein foam to extinguish.		
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.		
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].		
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

P403+P235	Store in a well-ventilated place. Keep cool.	
P405	Store locked up.	

Precautionary statement(s) Disposal

P501

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

Not Applicable

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
64-17-5	25-100	ethanol
107-98-2	25-50	propylene glycol monomethyl ether - alpha isomer
68411-04-1	0-10	C.I. Basic Blue 140 hydrochloride
Legend:	Legend: 1. Classified by Chemwatch; 2. Classification drawn from HCIS; 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. Generally not applicable. 	

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. Generally not applicable.
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. Generally not applicable.
Ingestion	 IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY. For advice, contact a Poisons Information Centre or a doctor. Urgent hospital treatment is likely to be needed. In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition. If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the SDS should be provided. Further action will be the responsibility of the medical specialist. If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the SDS. Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise: NDUCE vomiting with fingers down the back of the throat, ONLY IF CONSCIOUS. Lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. NOTE: Wear a protective glove when inducing vomiting by mechanical means. Generally not applicable.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

for copper intoxication:

- Unless extensive vomiting has occurred empty the stomach by lavage with water, milk, sodium bicarbonate solution or a 0.1% solution of potassium ferrocyanide (the resulting copper ferrocyanide is insoluble).
- Administer egg white and other demulcents.
- Maintain electrolyte and fluid balances.
- Morphine or meperidine (Demerol) may be necessary for control of pain.
- If symptoms persist or intensify (especially circulatory collapse or cerebral disturbances, try BAL intramuscularly or penicillamine in accordance with the supplier's recommendations.
- Treat shock vigorously with blood transfusions and perhaps vasopressor amines.
- + If intravascular haemolysis becomes evident protect the kidneys by maintaining a diuresis with mannitol and perhaps by alkalinising the urine with sodium bicarbonate.
- It is unlikely that methylene blue would be effective against the occassional methaemoglobinemia and it might exacerbate the subsequent haemolytic episode.
- Institute measures for impending renal and hepatic failure.

[GOSSELIN, SMITH & HODGE: Commercial Toxicology of Commercial Products]

• A role for activated charcoals for emesis is, as yet, unproven.

In severe poisoning CaNa2EDTA has been proposed.

[ELLENHORN & BARCELOUX: Medical Toxicology]

For acute or short term repeated exposures to ethanol:

- Acute ingestion in non-tolerant patients usually responds to supportive care with special attention to prevention of aspiration, replacement of fluid and correction of nutritional deficiencies (magnesium, thiamine pyridoxine, Vitamins C and K).
- Give 50% dextrose (50-100 ml) IV to obtunded patients following blood draw for glucose determination.
- Comatose patients should be treated with initial attention to airway, breathing, circulation and drugs of immediate importance (glucose, thiamine).
- Decontamination is probably unnecessary more than 1 hour after a single observed ingestion. Cathartics and charcoal may be given but are probably not effective in single
- ingestions.
- Fructose administration is contra-indicated due to side effects.

SECTION 5 Firefighting measures

Extinguishing media

- Alcohol stable 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

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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. Equipment should be thoroughly decontaminated after use. Slight hazard when exposed to heat, flame and oxidisers.
Fire/Explosion Hazard	 Combustible. Slight fire hazard when exposed to heat or flame. Heating may cause expansion or decomposition leading to violent rupture of containers.

	 On combustion, may emit toxic fumes of carbon monoxide (CO). May emit acrid smoke. Mists containing combustible materials may be explosive. Combustion products include: carbon monoxide (CO) carbon dioxide (CO2) nitrogen oxides (NOx) metal oxides other pyrolysis products typical of burning organic material. May emit corrosive fumes. May emit corrosive fumes. Articles and manufactured articles may constitute a fire hazard where polymers form their outer layers or where combustible packaging remains in place. Certain substances, found throughout their construction, may degrade or become volatile when heated to high temperatures. This may create a secondary hazard.
HAZCHEM	Not Applicable

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. Secure load if safe to do so. Bundle/collect recoverable product. Collect remaining material in containers with covers for disposal.
Major Spills	 Clear area of personnel and move upwind. Allert Fire Brigade and tell them location and nature of hazard. Wear fill body protective clothing with breathing apparatus. Prevent, by all means available, spillage from entering drains or water courses. Consider evacuation (or protect in place). No smoking, naked lights or ignition sources. Increase ventilation. Stop leak if safe to do so. Water strays or fog may be used to disperse / absorb vapour. Contain or absorb spill with sand, earth or vermiculite. Collect social residues and seal in labelled drums for disposal. Water strays or log may be used to disperse / absorb vapour. Collect social residues and seal in labelled drums for disposal. Water clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using. If contamination of drains or waterways occurs, advise emergency services. Clear area of personnel and move upwind. Alter fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves. Stop leak if safe to do so. Conlext recoverable product timo labelled containers for recycling. Collect recoverable product limo labelled containers for recycling. Collect interoverable product limo labelled containers for recycling. Neutralisolidecontaminate residue (see Section 13 for specific agent). Collect area and prevent runoff into drains. After fice nup operations, decontaminate and launder all protective clothing and equipment before storing and re-using. If contamination of drains or waterways occurs, advise emergency services. Moor hazard. Collect recoverable product limo labelled containers for recycling. Alter fire Brigade and tell them location and nature of hazard. Contain spill with sand, earth or vermicu

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

Conditions for safe storage, including any incompatibilities

5	Suitable conta	iner If repac	kaging is require	d ensure the arti	cle is intact and	does not show s	ed item is sufficient to protect against physical hazards. signs of wear. As far as is practicably possible, reuse the original article and the handler.
Stora	ge incompatib	ility ► Av	oid reaction with	oxidising agents			
*	x	+	×	÷	!	+	

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
Australia Exposure Standards	ethanol	Ethyl alcohol	1000 ppm / 1880 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	propylene glycol monomethyl ether - alpha isomer	Propylene glycol monomethyl ether	100 ppm / 369 mg/m3	553 mg/m3 / 150 ppm	Not Available	Not Available

Emergency Limits

Ingredient	TEEL-1 TEEL-2			TEEL-3
ethanol	Not Available	Not Available Not Available		15000* ppm
propylene glycol monomethyl ether - alpha isomer	100 ppm	160 ppm		660 ppm
Ingredient	Original IDLH		Revised IDLH	
ethanol	3,300 ppm		Not Available	
propylene glycol monomethyl ether - alpha isomer	Not Available		Not Available	
C.I. Basic Blue 140 hydrochloride	Not Available		Not Available	

Exposure controls

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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. Employees exposed to confirmed human carcinogens should be authorized to do so by the employer, and work in a regulated area. Work should be undertaken in an isolated system such as a "glove-box". Employees should wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system. Within regulated areas, the carcinogen should be stored in sealed containers, or enclosed in a closed system, including piping systems, with any sample ports or openings closed while the carcinogens are contained within. Open-vessel systems are prohibited. Each operation should be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the

	 operation. Exhaust air should not be discharged to regulated areas, non-regulated areas or the external environment unless decontaminated. Clean make-up air should be introduced in sufficient volume to maintain correct operation of the local exhaust system. For maintenance and decontamination activities, authorized employees entering the area should be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood. Prior to removing protective garments the employee should undergo decontamination and be required to shower upon removal of the garments and hood. Except for outdoor systems, regulated areas should be maintained under negative pressure (with respect to non-regulated areas). Local exhaust ventilation requires make-up air be supplied in equal volumes to replaced air. Laboratory hoods must be designed and maintained so as to draw air inward at an average linear face velocity of 0.76 m/sec with a minimum of 0.64 m/sec. Design and construction of the fume hood requires that insertion of any portion of the employees body, other than hands and arms, be disallowed. Articles or manufactured items, in their original condition, generally don't require engineering controls during handling or in normal use. Exceptions may arise following extensive use and subsequent wear, during recycling or disposal operations where substances, found in the article, may be released to the environment.
Personal protection	
Eye and face protection	 Safety glasses with side shields. Chemical goggles. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of 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], [AS/NZS 1336 or national equivalent] No special equipment required due to the physical form of the product.
Skin protection	See Hand protection below
Hands/feet protection	 Wear chemical protective gloves, e.g. PVC. Wear safety footwear or safety gumboots, e.g. Rubber No special equipment required due to the physical form of the product.
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:

Dy-Mark Industrial Marker D10 - Black

Material	CPI
BUTYL	A
NEOPRENE	A
PVC	В
NATURAL RUBBER	С
NATURAL+NEOPRENE	С
NITRILE	С
NITRILE+PVC	С
PE/EVAL/PE	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

 $\ensuremath{\text{NOTE}}$ 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.

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

 Appearance
 Felt tipped marking pen containing flammable liquid, contents miscible in water.

 Physical state
 Liquid
 Relative density (Water = 1)
 Not Available

Respiratory protection

Type A 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 / Class 1	-	A-PAPR-AUS / Class 1
up to 50 x ES	Air-line*	-	-
up to 100 x ES	-	A-3	-
100+ x ES	-	Air-line**	-

* - Continuous-flow; ** - Continuous-flow or positive pressure demand 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)

Respiratory protection not normally required due to the physical form of the product.

Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Applicable	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	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)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (Not Available%)	Not Applicable
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	Product is considered stable and hazardous polymerisation will not occur.
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	Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo. Inhalation hazard is increased at higher temperatures. Inhalation of high concentrations of gas/vapour causes lung irritation with coughing and nausea, central nervous depression with headache and dizziness, slowing of reflexes, fatigue and inco-ordination. There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful.		
Ingestion	Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual. Not a likely route of entry into the body in commercial or industrial environments. The liquid may produce considerable gastrointestinal discomfort and be harmful or toxic if swallowed.		
Skin Contact	The material may cause moderate inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering. Skin contact with the material may damage the health of the individual; systemic effects may result following absorption. Open cuts, abraded or irritated skin should not be exposed to this material		
Eye	There is evidence that material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation. Severe inflammation may be expected with pain.		
Chronic	Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems. This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects. Ample evidence exists from experimentation that reduced human fertility is directly caused by exposure to the material. Ample evidence exists, from results in experimentation, that developmental disorders are directly caused by human exposure to the material. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.		
	Substance accumulation, in the human body, may occur an	d may cause some concern following repeated or long-term occupational exposure.	
Dv-Mark Industrial Marker D10	Substance accumulation, in the human body, may occur an TOXICITY	d may cause some concern following repeated or long-term occupational exposure. IRRITATION	
Dy-Mark Industrial Marker D10 - Black			
-	ΤΟΧΙCΙΤΥ	IRRITATION	
-	TOXICITY Not Available	IRRITATION Not Available	
-	TOXICITY Not Available TOXICITY	IRRITATION Not Available IRRITATION	
-	TOXICITY Not Available TOXICITY Dermal (rabbit) LD50: 17100 mg/kg ^[1]	IRRITATION Not Available IRRITATION Eye (rabbit): 500 mg SEVERE	
- Black	TOXICITY Not Available TOXICITY Dermal (rabbit) LD50: 17100 mg/kg ^[1] Inhalation(Rat) LC50; 64000 ppm4h ^[2]	IRRITATION Not Available IRRITATION Eye (rabbit): 500 mg SEVERE Eye (rabbit):100mg/24hr-moderate	
- Black	TOXICITY Not Available TOXICITY Dermal (rabbit) LD50: 17100 mg/kg ^[1] Inhalation(Rat) LC50; 64000 ppm4h ^[2]	IRRITATION Not Available IRRITATION Eye (rabbit): 500 mg SEVERE Eye (rabbit):100mg/24hr-moderate Eye: adverse effect observed (irritating) ^[1]	

propylene glycol monomethyl ether - alpha isomer	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[1]	Eye (rabbit) 230 mg mild
	Inhalation(Rat) LC50; >6 mg/l4h ^[2]	Eye (rabbit) 500 mg/24 h mild
	Oral (Rat) LD50; 3739 mg/kg ^[1]	Eye (rabbit): 100 mg SEVERE
		Skin (rabbit) 500 mg open - mild
	TOXICITY	IRRITATION
C.I. Basic Blue 140 hydrochloride	Oral (Rat) LD50; >15000 mg/kg ^[2]	Eye (rabbit): no irritation
nyarochionae		Skin (rabbit): no irritation
Legend:	1. Value obtained from Europe ECHA Registered Subs specified data extracted from RTECS - Register of Toxi	tances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise

ETHANOL	The material may cause skin irritation after prolonged vesicles, scaling and thickening of the skin.	or repeated exposure and may produ	ce on contact skin redness, swelling, the production of
PROPYLENE GLYCOL MONOMETHYL ETHER - ALPHA ISOMER	series. The common toxicities associated with the low reproductive organs, the developing embryo and foetu In the ethylene series, metabolism of the terminal hyd of the lower molecular weight homologues in the ethyl Longer chain homologues in the ethylene series are r through formation of an alkoxyacetic acid. The predor manufacture of PGEs) is a secondary alcohol incapat alkoxypropionic acids and these are linked to birth del isomeric mixture in the commercial product, and there ethers is propylene glycol, which is of low toxicity and As a class, PGEs have low acute toxicity via swallowi animal testing, while the remaining members of this c Animal testing showed that repeat dosing caused few reproductive toxicity. Commercially available PGEs ha glycol ethers are unlikely to possess genetic toxicity.	ether (TPM). as shown that propylene glycol-based ver molecular weight homologues of th us, blood or thymus gland, are not see troxyl group produces and alkoxyaceti lene series are due specifically to the not associated with reproductive toxicil minant alpha isomer of all the PGEs (v ole of forming an alkoxypropionic acid, fects (and possibly, haemolytic effects ofore PGEs show relatively little toxicit completely metabolized in the body. ng, skin exposure and inhalation. PnB ategory caused little or no eye irritatio r adverse effects. Animal testing also s ave not been shown to cause birth def ant rats and rabbits to the substance d	ethers are less toxic than some ethers of the ethylene ee ethylene series, such as adverse effects on the en with the commercial-grade propylene glycol ethers. c acid. The reproductive and developmental toxicities formation of methoxyacetic and ethoxyacetic acids. ty, but can cause haemolysis in sensitive species, also which is thermodynamically favoured during . In contrast, beta-isomers are able to form the .). The alpha isomer comprises more than 95% of the y. One of the main metabolites of the propylene glycol and TPM are moderately irritating to the eyes, in n. None caused skin sensitization. shows that PGEs do not cause skin effects or iects. Available instance indicates that propylene lid not give rise to teratogenic effects at concentrations
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: X – Data either not available or does not fill the criteria for classification - Data available to make classification

SECTION 12 Ecological information

Toxicity

Dy-Mark Industrial Marker D10 - Black	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50(ECx)	96h	Algae or other aquatic plants	<0.001mg/L	4
	LC50	96h	Fish	>100mg/l	2
	EC50	72h	Algae or other aquatic plants	275mg/l	2
	EC50	48h	Crustacea	>79mg/L	4
	EC50	96h	Algae or other aquatic plants	<0.001mg/L	4
	Endpoint	Test Duration (hr)	Species	Value	Sourc
	EC50(ECx)	168h	Algae or other aquatic plants	>1000mg/l	1
propylene glycol monomethyl	LC50	96h	Fish	>=1000mg/l	2
ether - alpha isomer	EC50	72h	Algae or other aquatic plants	>500mg/l	2
	EC50	48h	Crustacea	23300mg/l	1
	EC50	96h	Algae or other aquatic plants	>1000mg/l	2
C.I. Basic Blue 140	Endpoint	Test Duration (hr)	Species	Value	Sourc
hydrochloride	NOEC(ECx)	72h	Algae or other aquatic plants	>=100mg/l	2

	EC50	72h	Algae or other aquatic plants	>100mg/l	2
	EC50	48h	Crustacea	>100mg/l	2
Legend:	Ecotox database		d Substances - Ecotoxicological Information - Aqua rd Assessment Data 6. NITE (Japan) - Bioconcentra		

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

For Propylene Glycol Ethers: log Kow's range from 0.309 for TPM to 1.523 for DPnB. Calculated BCFs range from 1.47 for DPnB to 3.16 for DPMA and TPM, indicating low bioaccumulation. Henry's Law Constants are low for all category members, ranging from 5.7 x 10-9 atm-m3/mole for TPM to 2.7 x10-9 atm-m3/mole for PnB. Environmental Fate: Most are liquids at room temperature and all are water-soluble.

Atmospheric Fate: In air, the half-life due to direct reactions with photochemically generated hydroxyl radicals, range from 2.0 hours for TPM to 4.6 hours for PnB.

Aquatic/Terrestrial Fate: Most propylene glycol ethers are likely to partition roughly equally into the soil and water compartments in the environment with small to negligible amounts remaining in other environmental compartments (air, sediment, and aquatic biota). In water, most members of this family are "readily biodegradable" under aerobic conditions. In soil, biodegradation is rapid for PM and PMA.

Ecotoxicity: Propylene glycol ethers are unlikely to persist in the environment. Acute aquatic toxicity testing indicates low toxicity for both ethers and acetates. For copper:

Atmospheric Fate - Copper is unlikely to accumulate in the atmosphere due to a short residence time for airborne copper aerosols. Airborne coppers, however, may be transported over large distances. Air Quality Standards: no data available.

Aquatic Fate: Toxicity of copper is affected by pH and hardness of water. Total copper is rarely useful as a predictor of toxicity. In natural sea water, more than 98% of copper is organically bound and in river waters a high percentage is often organically bound, but the actual percentage depends on the river water and its pH.

Ecotoxicity: Copper accumulates significantly in the food chain. The toxic effect of copper in the aquatic biota depends on the bio-availability of copper in water which, in turn, depends on its physico-chemical form (i.e. speciation). Bioavailability is decreased by complexation and adsorption of copper by natural organic matter, iron and manganese hydrated oxides, and chelating agents excreted by algae and other aquatic organisms. Copper exhibits significant toxicity in some aquatic organisms. Some algal species are very sensitive to copper. Silicate, iron, manganese and EDTA may reduce bioavailability.

For Ethanol: log Kow: -0.31 to -0.32; Koc 1: Estimated BCF= 3; Half-life (hr) air: 144; Half-life (hr) H2O surface water: 144; Henry's atm m3 /mol: 6.29E-06; BOD 5 if unstated: 0.93-1.67,63% COD: 1.99-2.11,97%; ThOD : 2.1.

Environmental Fate: Terrestrial - Ethanol quickly biodegrades in soil but may leach into ground water; most is lost by evaporation. Ethanol is expected to have very high mobility in soil. Volatilization of ethanol from moist soil surfaces is expected to be an important fate process. The potential for volatilization of ethanol from dry soil surfaces may exist. Biodegradation is expected to be an important fate process for ethanol based on half-lives on the order of a few days for ethanol in sandy soil/groundwater microcosms.

Atmospheric Fate: Ethanol is expected to exist solely as a vapour in the ambient atmosphere. Vapour-phase ethanol is degraded in the atmosphere by reaction with photochemicallyproduced hydroxyl radicals; the half-life for this reaction in air is estimated to be 5 days. Ethanol readily degraded by reaction with photochemically produced hydroxy radicals; release into air will result in photodegradation and wet deposition.

Aquatic Fate: When released into water ethanol readily evaporates and is biodegradable. Ethanol is not expected to adsorb to suspended solids and sediment. Volatilization from water surfaces is expected and volatilization half-lives for a model river and model lake are 3 and 39 days, respectively. Bioconcentration in aquatic organisms is considered to be low. Hydrolysis and photolysis in sunlit surface waters is not expected to be an important environmental fate process for ethanol and is unlikely to be persistent in aquatic environments. For Organic Cationics:

Environmental Fate: Cationic substances in the environment instantaneously form complexes with naturally occurring negatively charged constituents in sewage, soils, sediments, and with dissolved humic substances in surface waters. This complexation behaviour results in reduced bioavailability in actual environmental conditions.

Aquatic Fate: Cationic substances may be environmental hazards in aquatic environments. The source and composition of water dramatically affects toxicity in aquatic systems. Exempt from this concern are those polymers to be used only in solid phase, such as ion-exchange resins, and where the FGEW (Functional Group Equivalent Weight) of cationic groups is not 5000 and above.

Ecotoxicity: These chemicals, by the nature of their surfactant properties, are toxic to aquatic organisms at low concentrations. Cationic groups (alkylsulfoniums, alkylphosphoniums and quaternary ammonium polymers) are highly toxic to fish and other aquatic organisms. Similarly, potentially cationic groups such as amines and isocyanates are also of concern. Some cationics, however, may fall into the category of PLCs (polymers of low concern) provided they possess low charge density, and/or are not water-soluble or are not self-dispersing polycarboxylates or poly- (aromatic or aliphatic) sulfonate polymers. The toxicity of quaternary ammonium compounds is known to be greatly reduced in the environment because of preferential binding to dissolved organics in surface water.

For copper: Ecotoxicity - Significant effects are expected on various species of microalgae, some species of macroalgae, and a range of invertebrates, including crustaceans, gastropods and sea urchins. Copper is moderately toxic to crab and their larvae and is highly toxic to gastropods (mollusks, including oysters, mussels and clams). In fish, the acute lethal concentrations of copper depends both on test species and exposure conditions. Waters with high concentrations of copper can have significant effects on diatoms and sensitive invertebrates, notably cladocerans (water fleas). Most taxonomic groups of macroalgae and invertebrates will be severely affected.

For Copper: Typical foliar levels of copper are: Uncontaminated soils (0.3-250 mg/kg); Contaminated soils (150-450 mg/kg); Mining/smelting soils (6.1-25 mg/kg80 mg/kg300 mg/kg). Terrestrial Fate: Plants - Generally, vegetation reflects soil copper levels in its foliage. This is dependent upon the bioavailability of copper and the physiological requirements of species concerned. Crops are often more sensitive to copper than the native flora. Soil: In soil, copper levels are raised by application of fertilizer, fungicides, from deposition of highway dusts and from urban, mining and industrial sources. Chronic and or acute effects on sensitive species occur as a result of human activities such as copper fertilizer addition and addition of sludge. When soil levels exceed 150 mg Cu/kg, native and agricultural species show chronic effects. Soils in the range 500-1000 mg Cu/kg are in a strongly selective fashion allowing the survival of only copper-tolerant species and strains. At 2000 Cu mg/kg, most species cannot survive. By 3500 mg Cu/kg, areas are largely devoid of vegetation cover. The organic content of the soil appears to be a key factor affecting the bioavailability of copper. On normal forest soils, non-rooted plants such as mosses and lichens show higher copper concentrations. The fruiting bodies and mycorrhizal sheaths of soil fungi associated with higher plants in forests often accumulate copper to much higher levels than plants at the same site.

NOTE: Because of similarities in structure to thalidomide, concerns have been raised about the potential of all phthalimides (the basic building block of phthalocyanine) to cause malformation of a foetus in animals exposed to it. Animal studies, in part, appear to support this proposition. Phthalocyanine dyes are probably not biodegradable. Reversible reduction and decolourisation occurs under anaerobic conditions. As dyes are generally visible in water at low concentrations, this poses an aesthetic problem to the environment. Dyes are formulated to tolerate light and chemicals and thus tend to be highly persistant in natural environments. The release of dyes into the environment may therefore present an ecotoxic hazard, with the potential danger of bioaccumulation through the food chain, which may eventually affect humans. Ecotoxicity: Algae are generally susceptible to dyes, but this is thought to be as a result of indirect consequences of reduced light availability caused by dyes in the water rather than a direct inhibiting effect. While dyes are prone to fungal species, which differ in both catalysing ability and dye preferences. When nutrients are limited, secondary fungal degradation of aromatic structures occurs. While enzyme activity of fungi is optimal when food is limited, supplementation of nutrients is necessary for propagation of the fungi cultures. The effects of the substitutional pattern of the dyes are inconclusive, but it has been suggested that introduction of the functional groups; methyl, nitro, sulfo or acid, weakens the inhibition of bacteria, whereas introduction of chlorine and bromine strengthens the inhibition.

For Glycol Ethers:

Environmental Fate: Several glycol ethers have been shown to biodegrade however; biodegradation slows as molecular weight increases. No glycol ethers that have been tested demonstrate marked resistance to biodegradative processes. Atmospheric Fate: Upon release to the atmosphere by evaporation, high boiling glycol ethers are estimated to undergo photo-degradation (atmospheric half lives = 2.4-2.5 hr). Aquatic Fate: In water, glycol ethers undergo biodegradative processes. No glycol ethers 8-21 days) and have a low potential for bioaccumulation (log Kow ranges from -1.73 to +0.51). Ecotoxicity: Tri- and tetra ethylene glycol ethers are "practically non-toxic" to aquatic species. No major differences are observed in the order of toxicity going from the methyl- to the butyl ethers. Glycols exert a high oxygen demand for decomposition and once released to the environment death of aquatic organisms occurs if dissolved oxygen is depleted. **DO NOT** discharge into sever or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
ethanol	LOW (Half-life = 2.17 days)	LOW (Half-life = 5.08 days)

Ingredient	Persistence: Water/Soil	Persistence: Air
propylene glycol monomethyl ether - alpha isomer	LOW (Half-life = 56 days)	LOW (Half-life = 1.7 days)

Bioaccumulative potential

Ingredient	Bioaccumulation
ethanol	LOW (LogKOW = -0.31)
propylene glycol monomethyl ether - alpha isomer	LOW (BCF = 2)

Mobility in soil

Ingredient	Mobility
ethanol	HIGH (KOC = 1)
propylene glycol monomethyl ether - alpha isomer	HIGH (KOC = 1)

SECTION 13 Disposal considerations

Waste treatment methods				
Product / Packaging disposal	 Recycle wherever possible or consult manufacturer for recycling options. Consult State Land Waste Management Authority for disposal. DO NOT allow wash water from cleaning or process equipment to enter drains. It may be necessary to collect all wash water for treatment before disposal. In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. Where in doubt contact the responsible authority. Recycle wherever possible or consult manufacturer for recycling options. Consult State Land Waste Authority for disposal. Bury or incinerate residue at an approved site. Recycle containers if possible, or dispose of in an authorised landfill. 			

SECTION 14 Transport information

Labels Required		
Marine Pollutant	NO	
HAZCHEM	Not Applicable	

Land transport (ADG): 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

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

Not Applicable

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

Product name	Group
ethanol	Not Available
propylene glycol monomethyl ether - alpha isomer	Not Available
C.I. Basic Blue 140 hydrochloride	Not Available

Transport in bulk in accordance with the ICG Code

Product name	Ship Type	
ethanol	Not Available	
propylene glycol monomethyl ether - alpha isomer	Not Available	
C.I. Basic Blue 140 hydrochloride	Not Available	

SECTION 15 Regulatory information

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

ethanol is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australian Inventory of Industrial Chemicals (AIIC)

propylene glycol monomethyl ether - alpha isomer is found on the following regulatory lists Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

C.I. Basic Blue 140 hydrochloride is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

National Inventory Status

National Inventory	Status		
Australia - AIIC / Australia Non-Industrial Use	Yes		
Canada - DSL	Yes		
Canada - NDSL	No (ethanol; propylene glycol monomethyl ether - alpha isomer)		
China - IECSC	Yes		
Europe - EINEC / ELINCS / NLP	Yes		
Japan - ENCS	No (C.I. Basic Blue 140 hydrochloride)		
Korea - KECI	Yes		
New Zealand - NZIoC	Yes		
Philippines - PICCS	Yes		
USA - TSCA	Yes		
Taiwan - TCSI	Yes		
Mexico - INSQ	No (C.I. Basic Blue 140 hydrochloride)		
Vietnam - NCI	Yes		
Russia - FBEPH	No (C.I. Basic Blue 140 hydrochloride)		
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	27/05/2022
Initial Date	23/05/2022

SDS Version Summary

Version	Date of Update	Sections Updated
3.1	27/05/2022	Appearance, Physical Properties, Synonyms

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 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

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end of SDS