

One Coat Bond

Coltène/Whaledent AG

Version No: 2.2

Safety data sheet according to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

Issue Date: **03/10/2023**Print Date: **25/11/2024**

L.REACH.GB.EN

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

1.1. Product Identifier

Product name	One Coat Bond
Chemical Name	Not Applicable
Synonyms	Not Available
Chemical formula	Not Applicable
Other means of identification	Not Available

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

Relevant identified uses	Medical device, for dental use only Use according to manufacturer's directions.
Uses advised against	No specific uses advised against are identified.

1.3. Details of the manufacturer or supplier of the safety data sheet

Registered company name	Coltène/Whaledent AG					
Address	dwiesenstrasse 20 Altstätten 9450 Switzerland					
Telephone	+41 (71) 75 75 300					
Fax	1 (71) 75 75 301					
Website	www.coltene.com					
Email	msds@coltene.com					

1.4. Emergency telephone number

	Association / Organisation	CHEMWATCH EMERGENCY RESPONSE (24/7)				
	Emergency telephone number(s)	+44 20 3901 3542				
	Other emergency telephone number(s)	+44 808 164 9592				

Once connected and if the message is not in your preferred language then please dial 01

SECTION 2 Hazards identification

2.1. Classification of the substance or mixture

Classified according to GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567 ^[1]	H315 - Skin Corrosion/Irritation Category 2, H317 - Sensitisation (Skin) Category 1, H319 - Serious Eye Damage/Eye Irritation Category 2, H335 - Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3, H412 - Hazardous to the Aquatic Environment Long-Term Hazard Category 3
Legend:	1. Classified by Chemwatch; 2. Classification drawn from GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567

2.2. Label elements

Hazard pictogram(s)



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Signal word	Warning				
Hazard atatament(a)					
Hazard statement(s)					
H315	auses skin irritation.				
H317	May cause an allergic skin reaction.				
H319	Causes serious eye irritation.				
H335	May cause respiratory irritation.				
H412	Harmful to aquatic life with long lasting effects.				

Supplementary statement(s)

Not Applicable

Precautionary statement(s) Prevention

P271	se only a well-ventilated area.				
P280	Wear protective gloves, protective clothing, eye protection and face protection.				
P261	d breathing mist/vapours/spray.				
P273	Avoid release to the environment.				
P264	Wash all exposed external body areas thoroughly after handling.				
P272	Contaminated work clothing should not be allowed out of the workplace.				

Precautionary statement(s) Response

P302+P352	IF ON SKIN: Wash with plenty of water and soap.					
P305+P351+P338	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.					
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.					
P337+P313	If eye irritation persists: Get medical advice/attention.					
P362+P364	Take off contaminated clothing and wash it before reuse.					
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.					

Precautionary statement(s) Storage

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

Precautionary statement(s) Disposal

Material contains 2-hydroxyethyl methacrylate, glycerol dimethacrylate, diurethane dimethacrylate, diphenyliodonium chloride.

2.3. Other hazards

REACH - Art.57-59: The mixture does not contain Substances of Very High Concern (SVHC) at the SDS print date.

SECTION 3 Composition / information on ingredients

3.1.Substances

See 'Composition on ingredients' in Section $3.2\,$

3.2.Mixtures

1. CAS No 2.EC No 3.Index No 4.REACH No	% [weight]	Name	Classified according to GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567	SCL / M- Factor	Nanoform Particle Characteristics
1. 868-77-9 2.212-782-2 3.607-124-00-X 4.Not Available	40-50	2-hydroxyethyl methacrylate	Skin Corrosion/Irritation Category 2, Sensitisation (Skin) Category 1, Serious Eye Damage/Eye Irritation Category 2; H315, H317, H319 [2]	SCL: Not Available Acute M factor: Not Applicable Chronic M factor: Not	Not Available

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1. CAS No 2.EC No 3.Index No 4.REACH No	% [weight]	Name	Classified according to GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567	SCL / M- Factor	Nanoform Particle Characteristics
				Applicable	
1. 1830-78-0 2.217-388-4 3.Not Available 4.Not Available	25-35	gl <u>ycerol</u> dimethacrylate	Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2, Specific Target Organ Toxicity - Single Exposure Category 3; H315, H319, H335 [3]	SCL: Not Available Acute M factor: Not Applicable Chronic M factor: Not Applicable	Not Available
1. 1483-72-3 2.216-049-8 3.Not Available 4.None	<1	<u>diphenyliodonium</u> <u>chloride</u>	Acute Tox. 3, Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2, Specific Target Organ Toxicity - Single Exposure Category 3; H301, H315, H319, H335 [3]	SCL: Not Available Acute M factor: Not Applicable Chronic M factor: Not Applicable	Not Available
1. 72869-86-4 2.276-957-5 3.Not Available 4.Not Available	15-20	diurethane dimethacrylate	Sensitisation (Skin) Category 1, Hazardous to the Aquatic Environment Long-Term Hazard Category 2; H317, H411 ^[1]	SCL: Not Available Acute M factor: Not Applicable Chronic M factor: Not Applicable	Not Available
Legend:	Classified by Chemwatch; 2. Classification drawn from GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567; 3. Classification drawn from C&L * EU IOELVs available; [e] Substance identified as having endocrine disrupting properties				

SECTION 4 First aid measures

4.1. 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.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11

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

Treat symptomatically.

SECTION 5 Firefighting measures

5.1. Extinguishing media

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

5.2. 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

5.3. Advice for firefighters	
Fire Fighting	 Alert Fire Brigade and tell them location and nature of hazard. May be violently or explosively reactive. Wear full body protective clothing with breathing apparatus. Prevent, by any means available, spillage from entering drains or water course. Fight fire from a safe distance, with adequate cover. If safe, switch off electrical equipment until vapour fire hazard removed. Use water delivered as a fine spray to control the fire and cool adjacent area. Avoid spraying water onto liquid pools. 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.
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 dioxide (CO2) , nitrogen oxides (NOx) , other pyrolysis products typical of burning organic material. May emit clouds of acrid smoke May emit poisonous fumes. May emit corrosive fumes.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

See section 8

6.2. Environmental precautions

6.3. Methods and material for containment and cleaning up

 Remove all ignition sources. Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact with the substance, by using protective equipment. Contain and absorb spill with sand, earth, inert material or vermiculite. Wipe up. Place in a suitable, labelled container for waste disposal.
 DO NOT touch the spill material Moderate hazard. Clear area of personnel and move upwind. 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 course. No smoking, naked lights or ignition sources. Increase ventilation. Stop leak if safe to do so. Contain spill with sand, earth or vermiculite. Collect recoverable product into labelled containers for recycling. Absorb remaining product with sand, earth or vermiculite. Collect solid residues and seal in labelled drums for disposal. Wash area and prevent runoff into drains. If contamination of drains or waterways occurs, advise emergency services.

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6.4. Reference to other sections

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

SECTION 7 Handling and storage

7.1. Precautions for safe handling

7.1. Precautions for safe h	andling
Safe handling	 Avoid all personal 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. Avoid smoking, naked lights or ignition sources. 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. 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. DO NOT allow clothing wet with material to stay in contact with skin
Fire and explosion protection	See section 5
Other information	 Store in original containers. Keep containers securely sealed. No smoking, naked lights or ignition sources. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks.

7.2. Conditions for safe storage, including any incompatibilities

Suitable container	Recommended storage temperature: 4 - 23 °C • Metal can or drum • Packaging as recommended by manufacturer. • Check all containers are clearly labelled and free from leaks.
Storage incompatibility	for multifunctional acrylates: Avoid exposure to free radical initiators (peroxides, persulfates), iron, rust, oxidisers, and strong acids and strong bases. Avoid heat, flame, sunlight, X-rays or ultra-violet radiation. Storage beyond expiration date, may initiate polymerisation. Polymerisation of large quantities may be violent (even explosive)
Hazard categories in accordance with Regulation (EC) No 2012/18/EU (Seveso III)	Not Available
Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of	Not Available

▶ Observe manufacturer's storage and handling recommendations contained within this SDS.

7.3. Specific end use(s)

See section 1.2

SECTION 8 Exposure controls / personal protection

8.1. Control parameters

Ingredient	DNELs Exposure Pattern Worker	PNECs Compartment
2-hydroxyethyl methacrylate	Dermal 1.39 mg/kg bw/day (Systemic, Chronic) Inhalation 4.9 mg/m³ (Systemic, Chronic) * Dermal 0.83 mg/kg bw/day (Systemic, Chronic) * Inhalation 0.00145 mg/m³ (Systemic, Chronic) * Oral 0.83 mg/kg bw/day (Systemic, Chronic) *	0.482 mg/L (Water (Fresh)) 1 mg/L (Water - Intermittent release) 0.048 mg/L (Water (Marine)) 3.79 mg/kg sediment dw (Sediment (Fresh Water)) 3.79 mg/kg sediment dw (Sediment (Marine)) 0.476 mg/kg soil dw (Soil) 10 mg/L (STP)

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Ingredient DNELs Exposure Pattern Worker		PNECs Compartment	
diurethane dimethacrylate	Dermal 1.3 mg/kg bw/day (Systemic, Chronic) Inhalation 3.3 mg/m³ (Systemic, Chronic) Dermal 0.7 mg/kg bw/day (Systemic, Chronic) * Inhalation 0.0006 mg/m³ (Systemic, Chronic) * Oral 0.3 mg/kg bw/day (Systemic, Chronic) *	0.01 mg/L (Water (Fresh)) 0.1 mg/L (Water - Intermittent release) 0.001 mg/L (Water (Marine)) 4.56 mg/kg sediment dw (Sediment (Fresh Water)) 0.46 mg/kg sediment dw (Sediment (Marine)) 0.91 mg/kg soil dw (Soil) 3.61 mg/L (STP)	

^{*} Values for General Population

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Not Available						

Not Applicable

Ingredient	Original IDLH	Revised IDLH
2-hydroxyethyl methacrylate	Not Available	Not Available
glycerol dimethacrylate	Not Available	Not Available
diphenyliodonium chloride	Not Available	Not Available
diurethane dimethacrylate	Not Available	Not Available

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
2-hydroxyethyl methacrylate	E	≤ 0.1 ppm
glycerol dimethacrylate	E	≤ 0.1 ppm
diphenyliodonium chloride	E	≤ 0.01 mg/m³
diurethane dimethacrylate	E	≤ 0.1 ppm
Notes:	Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.	

MATERIAL DATA

IFRA Prohibited Fragrance Substance

The International Fragrance Association (IFRA) Standards form the basis for the globally accepted and recognized risk management system for the safe use of fragrance ingredients and are part of the IFRA Code of Practice. This is the self-regulating system of the industry, based on risk assessments carried out by an independent Expert Panel

Tenth Annual Report on Carcinogens: Substance anticipated to be Carcinogen

[National Toxicology Program: U.S. Dep. of Health & Human Services 2002]

CEL TWA: 1 mg/m3 [compare WEEL-TWA* for multifunctional acrylates (MFAs)]

(CEL = Chemwatch Exposure Limit)

Exposure to MFAs has been reported to cause contact dermatitis in humans and serious eye injury in laboratory animals. Exposure to some MFA-resin containing aerosols has also been reported to cause dermatitis. As no assessment of the possible effects of long-term exposure to aerosols was found, a conservative Workplace Environmental Exposure Level (WEEL) was suggested by the American Industrial Hygiene Association (AIHA).

These exposure guidelines have been derived from a screening level of risk assessment and should not be construed as unequivocally safe limits. ORGS represent an 8-hour time-weighted average unless specified otherwise.

CR = Cancer Risk/10000; UF = Uncertainty factor:

TLV believed to be adequate to protect reproductive health:

LOD: Limit of detection

Toxic endpoints have also been identified as:

D = Developmental; R = Reproductive; TC = Transplacental carcinogen

Jankovic J., Drake F.: A Screening Method for Occupational Reproductive

American Industrial Hygiene Association Journal 57: 641-649 (1996)

Exposed individuals are **NOT** reasonably expected to be warned, by smell, that the Exposure Standard is being exceeded.

Odour Safety Factor (OSF) is determined to fall into either Class C, D or E.

The Odour Safety Factor (OSF) is defined as:

OSF= Exposure Standard (TWA) ppm/ Odour Threshold Value (OTV) ppm

Classification into classes follows:

ClassOSF Description

Over 90% of exposed individuals are aware by smell that the Exposure Standard (TLV-TWA for example) is being reached, even when distracted by working activities

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- 26-В As "A" for 50-90% of persons being distracted 550
- 1-26 As "A" for less than 50% of persons being distracted С
- 0.18-1 10-50% of persons aware of being tested perceive by smell that the Exposure Standard is being reached D
- Ε <0.18 As "D" for less than 10% of persons aware of being tested

8.2. Exposure controls

CARE: Use of a quantity of this material in confined space or poorly ventilated area, where rapid build up of concentrated atmosphere may occur, could require increased ventilation and/or protective gear

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.

General exhaust is adequate under normal operating conditions. Local exhaust ventilation may be required in special circumstances. If risk of overexposure exists, wear approved respirator. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection. Provide adequate ventilation in warehouses and enclosed storage areas. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

8.2.1. Appropriate engineering controls

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

Within each range the appropriate value depends on:

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

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

8.2.2. Individual protection measures, such as personal protective equipment











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

- Fig. The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.
- Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.

Body protection

See Other protection below

NOTE:

Other protection

- Overalls. P.V.C apron.
- Barrier cream.

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- ▶ Skin cleansing cream.
- ▶ Eye wash unit.

Respiratory protection

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

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Required minimum protection factor	Maximum gas/vapour concentration present in air p.p.m. (by volume)	Half-face Respirator	Full-Face Respirator
up to 10	1000	A-AUS / Class1 P2	-
up to 50	1000	-	A-AUS / Class 1 P2
up to 50	5000	Airline *	-
up to 100	5000	-	A-2 P2
up to 100	10000	-	A-3 P2
100+			Airline**

^{* -} 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)

8.2.3. Environmental exposure controls

See section 12

SECTION 9 Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Colourless		
Physical state	Liquid	Relative density (Water = 1)	1.13
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 (°C)	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 Available
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	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
Nanoform Solubility	Not Available	Nanoform Particle Characteristics	Not Available
Particle Size	Not Available		

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Not Available

SECTION 10 Stability and reactivity

10.1.Reactivity	See section 7.2
10.2. Chemical stability	 Polymerisation may occur at elevated temperatures. Polymerisation may be accompanied by generation of heat as exotherm. Process is self accelerating as heating causes more rapid polymerisation. Exotherm may cause boiling with generation of acrid, toxic and flammable vapour. Polymerisation and exotherm may be violent if contamination with strong acids, amines or catalysts occurs. Polymerisation and exotherm of material in bulk may be uncontrollable and result in rupture of storage tanks. Polymerisation may occur if stabilising inhibitor becomes depleted by aging. Stabilising inhibitor requires dissolved oxygen to be present in liquid for effective action. Specific storage requirements must be met for stability on ageing and transport.
10.3. Possibility of hazardous reactions	See section 7.2
10.4. Conditions to avoid	See section 7.2
10.5. Incompatible materials	See section 7.2
10.6. Hazardous decomposition products	See section 5.3

SECTION 11 Toxicological information

11.1. Information on toxicological effects

0 0 10 1	TOXICITY	IRRITATION	
One Coat Bond	Not Available	Not Available	
	TOXICITY	IRRITATION	
	Dermal (rabbit) LD50: >3000 mg/kg ^[2]	Eye: adverse effect observed (irritating) ^[1]	
2-hydroxyethyl methacrylate	Oral (Rat) LD50: >=2000 mg/kg ^[1]	Skin (Human - woman): 2%	
·		Skin (Human - woman): 2%/48H	
		Skin: no adverse effect observed (not irritating) ^[1]	
-h	TOXICITY	IRRITATION	
glycerol dimethacrylate	Not Available	Not Available	
	TOXICITY	IRRITATION	
diphenyliodonium chloride	Oral (Rat) LD50: 60 mg/kg ^[2]	Not Available	
	TOXICITY	IRRITATION	
diurethane dimethacrylate	dermal (rat) LD50: >2000 mg/kg * ^[2]	Eye: no adverse effect observed (not irritating) ^[1]	
	Oral (Rat) LD50: >2000 mg/kg * ^[2]	Skin: no adverse effect observed (not irritating) ^[1]	
Legend:	Value obtained from Europe ECHA Registered Sui	bstances - Acute toxicity 2. Value obtained from manufacturer's SDS.	

GLYCEROL DIMETHACRYLATE	The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling the epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.
DIPHENYLIODONIUM	No significant acute toxicological data identified in literature search.
CHLORIDE	Diphenyleneiodonium (DPI), a diaryliodonium compound, is often used as an NADPH oxidase inhibitor, but is increasingly being found to have unrelated side effects.
	Using bovine smooth muscle strips: Contractions to acetylcholine were markedly enhanced by DPI (10(-4) M), whereas those to carbachol (CCh) were not, suggesting a possible inhibition of cholinesterase. DPI markedly suppressed contractions evoked by CCh, KCl and 5-HT, and also unmasked phasic activity in otherwise sustained responses. Direct biochemical assays confirmed that DPI was a potent inhibitor of acetylcholinesterase and butyrylcholinesterase (IC(50) approximately 8 x 10(-6) M and 6 x

10(-7) M, respectively), following a readily reversible, mixed non-competitive type of inhibition. The inhibitory effects of DPI on CCh contractions were not mimicked by another NADPH oxidase inhibitor (apocynin), nor the Src inhibitors PP1 or PP2, ruling out an action through the NADPH oxidase signalling pathway. Several features of the DPI-mediated suppression of agonist-

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evoked responses (i.e. suppression of peak magnitudes and unmasking of phasic activity) are similar to those of cyclopiazonic acid, an inhibitor of the internal Ca(2+) pump. Direct measurement of microsomal Ca(2+) uptake revealed that DPI modestly inhibits the internal Ca(2+) pump.DPI inhibits cholinesterase activity and the internal Ca(2+) pump in tracheal smooth muscle. Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-One Coat Bond & 2allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of **HYDROXYETHYL METHACRYLATE &** individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the **GLYCEROL** irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe **DIMETHACRYLATE &**

One Coat Bond & 2-**HYDROXYETHYL** METHACRYLATE & diurethane dimethacrylate

DIPHENYLIODONIUM

dimethacrylate

CHLORIDE & diurethane

highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic 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.

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.

UV (ultraviolet)/ EB (electron beam) acrylates are generally of low toxicity

UV/EB acrylates are divided into two groups; "stenomeric" and "eurymeric" acrylates.

The first group consists of well-defined acrylates which can be described by a simple idealised chemical; they are low molecular weight species with a very narrow weight distribution profile.

The eurymeric acrylates cannot be described by an idealised structure and may differ fundamentally between various suppliers; they are of relatively high molecular weigh and possess a wide weight distribution.

Stenomeric acrylates are usually more hazardous than the eurymeric substances. Stenomeric acrylates are also well defined which allows comparison and exchange of toxicity data - this allows more accurate classification.

The stenomerics cannot be classified as a group; they exhibit substantial variation.

GLYCEROL DIMETHACRYLATE & diurethane dimethacrylate

One Coat Bond &

Based on the available oncogenicity data and without a better understanding of the carcinogenic mechanism the Health and Environmental Review Division (HERD), Office of Toxic Substances (OTS), of the US EPA previously concluded that all chemicals that contain the acrylate or methacrylate moiety (CH2=CHCOO or CH2=C(CH3)COO) should be considered to be a carcinogenic hazard unless shown otherwise by adequate testing.

This position has now been revised and acrylates and methacrylates are no longer de facto carcinogens.

Where no "official" classification for acrylates and methacrylates exists, there has been cautious attempts to create classifications in the absence of contrary evidence. For example

Monalkyl or monoarylesters of acrylic acids should be classified as R36/37/38 and R51/53

Monoalkyl or monoaryl esters of methacrylic acid should be classified as R36/37/38

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

11.2 Information on other hazards

11.2.1. Endocrine disrupting properties

No evidence of endocrine disrupting properties were found in the current literature.

11.2.2. Other information

See Section 11.1

SECTION 12 Ecological information

12.1. Toxicity

	Endpoint	Test Duration (hr)	Species	Value	Source
One Coat Bond	Not Available I		Not Available	Not Available	Not Available
2-hydroxyethyl methacrylate	Endpoint	Test Duration (hr)	Species	Value	Source
methacrylate	EC50	72h	Algae or other aquatic plants	345mg/l	2
	EC50	48h	Crustacea	380mg/l	2
	NOEC(ECx)	504h	Crustacea	24.1mg/l	2

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	LC50	96h	Fish	>100mg/l	2
	Endpoint	Test Duration (hr)	Species	Value	Source
glycerol dimethacrylate	Not Available	Not Available	Not Available	Not Available	Not Available
	Endpoint	Test Duration (hr)	Species	Value	Source
diphenyliodonium chloride	Not Available	Not Available	Not Available	Not Available	Not Available
	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	>0.68mg/l	2
diurethane dimethacrylate	NOEC(ECx)	72h	Algae or other aquatic plants	0.21mg/l	2
	EC50	48h	Crustacea	>1.2mg/L	2
	LC50	96h	Fish	10.1mg/l	2
Legend:			CHA Registered Substances - Ecotoxicologica a 5. ECETOC Aquatic Hazard Assessment Dat	•	-

DO NOT discharge into sewer or waterways.

12.2. Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
2-hydroxyethyl methacrylate	LOW	LOW
glycerol dimethacrylate	LOW	LOW
diphenyliodonium chloride	HIGH	HIGH

12.3. Bioaccumulative potential

Ingredient	Bioaccumulation
2-hydroxyethyl methacrylate	LOW (BCF = 1.54)
glycerol dimethacrylate	LOW (LogKOW = 1.16)
diphenyliodonium chloride	MEDIUM (BCF = 1235)
diurethane dimethacrylate	HIGH (LogKOW = 4.69)

12.4. Mobility in soil

Ingredient	Mobility
2-hydroxyethyl methacrylate	HIGH (Log KOC = 1.043)
glycerol dimethacrylate	LOW (Log KOC = 10)
diphenyliodonium chloride	LOW (Log KOC = 11290)

12.5. Results of PBT and vPvB assessment

	Р	В	Т
Relevant available data	Not Available	Not Available	Not Available
PBT	×	×	×
vPvB	×	×	×
PBT Criteria fulfilled?	No		
vPvB	No		

12.6. Endocrine disrupting properties

No evidence of endocrine disrupting properties were found in the current literature.

12.7. Other adverse effects

No evidence of ozone depleting properties were found in the current literature.

SECTION 13 Disposal considerations

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Product / Packaging disposal	Dispose of waste according to applicable legislation. Special country-specific regulations may apply. Can be disposed together with household waste in compliance with official regulations in contact with approved waste disposal companies and with authorities in charge. (Only dispose of completely emptied packages.)
Waste treatment options	Not Available
Sewage disposal options	Not Available

SECTION 14 Transport information

Labels Required

Marine Pollutant	NO
HAZCHEM	Not Applicable

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

14.1. UN number or ID number	Not Applicable	Not Applicable			
14.2. UN proper shipping name	Not Applicable				
14.3. Transport hazard	Class	Not Appli	cable		
class(es)	Subsidiary Hazard	Not Appli	cable		
14.4. Packing group	Not Applicable				
14.5. Environmental hazard	Not Applicable				
	Hazard identification	(Kemler)	Not Applicable		
	Classification code		Not Applicable		
14.6. Special precautions for user	Hazard Label		Not Applicable		
	Special provisions		Not Applicable		
	Limited quantity		Not Applicable		
	Tunnel Restriction C	ode	Not Applicable		

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

14.1. UN number	Not Applicable				
14.2. UN proper shipping name	Not Applicable				
	ICAO/IATA Class Not Applicable				
14.3. Transport hazard class(es)	ICAO / IATA Subsidiary Hazard	Not Applicable			
0.1200(00)	ERG Code Not Applicable				
14.4. Packing group	Not Applicable				
14.5. Environmental hazard	Not Applicable				
14.6. Special precautions for user	Special provisions		Not Applicable		
	Cargo Only Packing Instructions		Not Applicable		
	Cargo Only Maximum Qty / Pack		Not Applicable		
	Passenger and Cargo Packing Ir	structions	Not Applicable		
	Passenger and Cargo Maximum Qty / Pack		Not Applicable		
	Passenger and Cargo Limited Quantity Packing Instructions		Not Applicable		
	Passenger and Cargo Limited Maximum Qty / Pack		Not Applicable		

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

14.1. UN number	Not Applicable	Not Applicable		
14.2. UN proper shipping name	Not Applicable			
14.3. Transport hazard class(es)	IMDG Class	Not Applicable		
, -,	IMDG Subsidiary Hazard	Not Applicable		

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14.4. Packing group	Not Applicable	
14.5 Environmental hazard	Not Applicable	
14.6. Special precautions for user	EMS Number	Not Applicable
	Special provisions	Not Applicable
	Limited Quantities	Not Applicable
	Limited Quantities	Not Applicable

Inland waterways transport (ADN): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.1. UN number	Not Applicable		
14.2. UN proper shipping name	Not Applicable		
14.3. Transport hazard class(es)	Not Applicable Not Applicable		
14.4. Packing group	Not Applicable		
14.5. Environmental hazard	Not Applicable		
		Not Applicable	
	Special provisions	Not Applicable	
14.6. Special precautions for user	Limited quantity	Not Applicable	
	Equipment required	Not Applicable	
	Fire cones number	Not Applicable	

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

Not Applicable

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

Product name	Group
2-hydroxyethyl methacrylate	Not Available
glycerol dimethacrylate	Not Available
diphenyliodonium chloride	Not Available
diurethane dimethacrylate	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
2-hydroxyethyl methacrylate	Not Available
glycerol dimethacrylate	Not Available
diphenyliodonium chloride	Not Available
diurethane dimethacrylate	Not Available

SECTION 15 Regulatory information

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

2-hydroxyethyl methacrylate is found on the following regulatory lists

Great Britain GB mandatory classification and labelling list (GB MCL)

glycerol dimethacrylate is found on the following regulatory lists

Not Applicable

diphenyliodonium chloride is found on the following regulatory lists

International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

diurethane dimethacrylate is found on the following regulatory lists

Great Britain GB mandatory classification and labelling (GB MCL) technical reports

Additional Regulatory Information

Not Applicable

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This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable -: Directives 98/24/EC, - 92/85/EEC, - 94/33/EC, - 2008/98/EC, - 2010/75/EU; Commission Regulation (EU) 2020/878; Regulation (EC) No 1272/2008 as updated through ATPs.

Information according to 2012/18/EU (Seveso III):

Seveso Category Not Available

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	No (glycerol dimethacrylate; diphenyliodonium chloride)
Canada - DSL	No (glycerol dimethacrylate; diphenyliodonium chloride; diurethane dimethacrylate)
Canada - NDSL	No (2-hydroxyethyl methacrylate)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (diphenyliodonium chloride; diurethane dimethacrylate)
Korea - KECI	No (diphenyliodonium chloride)
New Zealand - NZIoC	Yes
Philippines - PICCS	No (glycerol dimethacrylate; diphenyliodonium chloride; diurethane dimethacrylate)
USA - TSCA	All chemical substances in this product have been designated as TSCA Inventory 'Active'
Taiwan - TCSI	Yes
Mexico - INSQ	No (glycerol dimethacrylate; diphenyliodonium chloride; diurethane dimethacrylate)
Vietnam - NCI	Yes
Russia - FBEPH	No (glycerol dimethacrylate; diurethane dimethacrylate)
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	03/10/2023
Initial Date	06/01/2022

Full text Risk and Hazard codes

H301	Toxic if swallowed.
H411	Toxic to aquatic life with long lasting effects.

SDS Version Summary

Version	Date of Update	Sections Updated
1.2	03/10/2023	Hazards identification - Classification, Ecological Information - Environmental, Composition / information on ingredients - Ingredients

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.

For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards:

EN 166 Personal eye-protection

EN 340 Protective clothing

EN 374 Protective gloves against chemicals and micro-organisms

EN 13832 Footwear protecting against chemicals

EN 133 Respiratory protective devices

Definitions and abbreviations

Issue Date: **03/10/2023**Print Date: **25/11/2024**

- ▶ 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
- ▶ 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

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]

Classification according to regulation (EC) No 1272/2008 [CLP] and amendments	Classification Procedure	
Skin Corrosion/Irritation Category 2, H315	Calculation method	
Sensitisation (Skin) Category 1, H317	Calculation method	
Serious Eye Damage/Eye Irritation Category 2, H319	Calculation method	
Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3, H335	Calculation method	
Hazardous to the Aquatic Environment Long-Term Hazard Category 3, H412	Calculation method	

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