3046997 Lyreco Correction Pen 7ml Dark Blue

Lyreco

Chemwatch Hazard Alert Code: **3**

Chemwatch: **4854-68**
Version No: **3.1.1.1**
Safety Data Sheet (Conforms to Regulation (EU) No 2015/830)

Issue Date: **02/05/2015**
Print Date: **02/15/2017**
S.REACH.GBR.EN

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1. Product Identifier

Product name	3046997 Lyreco Correction Pen 7ml Dark Blue
Synonyms	Product Code: 304699
Proper shipping name	METHYLCYCLOHEXANE
Other means of identification	Not Available

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

Relevant identified uses	Correction pen. NOTE: Information on this SDS refers to ink used in pens and markers, however, it applies to these inks in bulk.
Uses advised against	Not Applicable

1.3. Details of the supplier of the safety data sheet

Registered company name	Lyreco
Address	Deer Park Court, Donnington Wood Telford, TF2 7NB United Kingdom
Telephone	01952 286130
Fax	Not Available
Website	www.lyreco.co.uk
Email	steve.weston@lyreco.com

1.4. Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	Not Available
Other emergency telephone numbers	Not Available

SECTION 2 HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Considered a hazardous mixture according to Reg. (EC) No 1272/2008 and their amendments. Classified as Dangerous Goods for transport purposes.

CHEMWATCH HAZARD RATINGS

		Min	Max
Flammability	3		
Toxicity	1		
Body Contact	2		
Reactivity	1		
Chronic	3		

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

Classification according to regulation (EC) No 1272/2008 [CLP] [1]	Flammable Liquid Category 2, Skin Corrosion/Irritation Category 2, Skin Sensitizer Category 1, Carcinogenicity Category 1A, Specific target organ toxicity - single exposure Category 3 (narcotic effects), Aspiration Hazard Category 1, Chronic Aquatic Hazard Category 2
Legend:	*1. Classified by Chemwatch; 2. Classification drawn from EC Directive 67/548/EEC - Annex I ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI*

2.2. Label elements

CLP label elements	
SIGNAL WORD	**DANGER**

Continued...

Hazard statement(s)

H225	Highly flammable liquid and vapour.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H350i	May cause cancer by inhalation.
H336	May cause drowsiness or dizziness.
H304	May be fatal if swallowed and enters airways.
H411	Toxic to aquatic life with long lasting effects.

Supplementary statement(s)

Not Applicable

Precautionary statement(s) Prevention

P101	If medical advice is needed, have product container or label at hand.

Precautionary statement(s) Response

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician/first aider.

Precautionary statement(s) Storage

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

Precautionary statement(s) Disposal

P501	Dispose of contents/container in accordance with local regulations.

2.3. Other hazards

Inhalation and/or ingestion may produce health damage*.

Cumulative effects may result following exposure*.

May produce discomfort of the eyes and respiratory tract*.

Possible respiratory sensitizer*.

Repeated exposure potentially causes skin dryness and cracking*.

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	Classification according to regulation (EC) No 1272/2008 [CLP]
1.13463-67-7 2.236-675-5 3.Not Available 4.01-2119954396-27-XXXX, 01-2119489379-17-XXXX	50-60	titanium dioxide	Carcinogenicity Category 1A; H350i [1]
1.108-87-2 2.203-624-3 3.601-018-00-7 4.01-2119556887-18-XXXX	40-50	methylcyclohexane	Flammable Liquid Category 2, Aspiration Hazard Category 1, Skin Corrosion/Irritation Category 2, Specific target organ toxicity - single exposure Category 3 (narcotic effects), Chronic Aquatic Hazard Category 2; H225, H304, H315, H336, H411 [3]
1.97-86-9 2.202-613-0 3.607-113-00-X 4.01-2119488331-38-XXXX	5-10	iso-butyl methacrylate	Flammable Liquid Category 3, Eye Irritation Category 2, Specific target organ toxicity - single exposure Category 3 (respiratory tract irritation), Skin Corrosion/Irritation Category 2, Skin Sensitizer Category 1, Acute Aquatic Hazard Category 1; H226, H319, H335, H315, H317, H400 [3]
Legend:	*1. Classified by Chemwatch; 2. Classification drawn from EC Directive 67/548/EEC - Annex I ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI 4. Classification drawn from C&L*		

SECTION 4 FIRST AID MEASURES

4.1. Description of first aid measures

General	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. 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.

Continued...

	▸ 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. ▸ 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. ▸ For advice, contact a Poisons Information Centre or a doctor at once. ▸ Urgent hospital treatment is likely to be needed. ▸ If swallowed do **NOT** induce vomiting. ▸ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. ▸ Observe the patient carefully. ▸ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. ▸ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. ▸ Transport to hospital or doctor without delay.
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.
Ingestion	▸ For advice, contact a Poisons Information Centre or a doctor at once. ▸ Urgent hospital treatment is likely to be needed. ▸ If swallowed do **NOT** induce vomiting. ▸ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. ▸ Observe the patient carefully. ▸ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. ▸ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. ▸ Transport to hospital or doctor without delay.

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

For acute or short term repeated exposures to petroleum distillates or related hydrocarbons:

- Primary threat to life, from pure petroleum distillate ingestion and/or inhalation, is respiratory failure.
- Patients should be quickly evaluated for signs of respiratory distress (e.g. cyanosis, tachypnoea, intercostal retraction, obtundation) and given oxygen. Patients with inadequate tidal volumes or poor arterial blood gases (pO2 50 mm Hg) should be intubated.
- Arrhythmias complicate some hydrocarbon ingestion and/or inhalation and electrocardiographic evidence of myocardial injury has been reported; intravenous lines and cardiac monitors should be established in obviously symptomatic patients. The lungs excrete inhaled solvents, so that hyperventilation improves clearance.
- A chest x-ray should be taken immediately after stabilisation of breathing and circulation to document aspiration and detect the presence of pneumothorax.
- Epinephrine (adrenalin) is not recommended for treatment of bronchospasm because of potential myocardial sensitisation to catecholamines. Inhaled cardioselective bronchodilators (e.g. Alupent, Salbutamol) are the preferred agents, with aminophylline a second choice.
- Lavage is indicated in patients who require decontamination; ensure use of cuffed endotracheal tube in adult patients. [Ellenhorn and Barceloux: Medical Toxicology]

Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically. Mechanical means should be used if it is considered necessary to evacuate the stomach contents; these include gastric lavage after endotracheal intubation. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours.

SECTION 5 FIREFIGHTING MEASURES

5.1. Extinguishing media

- Foam.

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 result

5.3. Advice for firefighters

Fire Fighting	▸ Alert Fire Brigade and tell them location and nature of hazard.
Fire/Explosion Hazard	▸ Liquid and vapour are highly flammable. Combustion products include: , carbon dioxide (CO2) , other pyrolysis products typical of burning organic material. **Contains low boiling substance:** Closed containers may rupture due to pressure buildup under fire conditions. **WARNING**: Long standing in contact with air and light may result in the formation of potentially explosive peroxides.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Continued...

6.1. Personal precautions, protective equipment and emergency procedures

See section 8

6.2. Environmental precautions

See section 12

6.3. Methods and material for containment and cleaning up

Minor Spills	▸ Remove all ignition sources.
Major Spills	▸ Clear area of personnel and move upwind.

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

Safe handling	▸ **DO NOT** allow clothing wet with material to stay in contact with skin ▸ Avoid all personal contact, including inhalation.
Fire and explosion protection	See section 5
Other information	▸ Store in original containers in approved flame-proof area.

7.2. Conditions for safe storage, including any incompatibilities

Suitable container	▸ Packing as supplied by manufacturer. ▸ For low viscosity materials (i) : Drums and jerry cans must be of the non-removable head type.
Storage incompatibility	▸ Avoid reaction with oxidising agents ▸ Avoid strong acids, bases.

7.3. Specific end use(s)

See section 1.2

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

DERIVED NO EFFECT LEVEL (DNEL)

Not Available

PREDICTED NO EFFECT LEVEL (PNEC)

Not Available

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

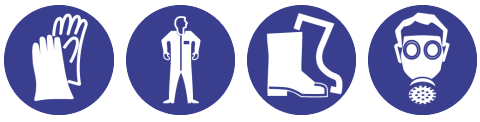
Source	Ingredient	Material name	TWA	STEL	Peak	Notes
UK Workplace Exposure Limits (WELs)	titanium dioxide	Titanium dioxide total inhalable / Titanium dioxide respirable	10 mg/m3 / 4 mg/m3	Not Available	Not Available	Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
titanium dioxide	Titanium oxide; (Titanium dioxide)	30 mg/m3	330 mg/m3	2,000 mg/m3
methylcyclohexane	Methylcyclohexane	1200 ppm	1700 ppm	10000 ppm

Ingredient	Original IDLH	Revised IDLH
titanium dioxide	N.E. / N.E.	5,000 mg/m3
methylcyclohexane	10,000 ppm	1,200 [LEL] ppm
iso-butyl methacrylate	Not Available	Not Available

8.2. Exposure controls

8.2.1. Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard.
8.2.2. Personal protection	
Eye and face protection	▸ Safety glasses with side shields.
Skin protection	See Hand protection below

Continued...

Hands/feet protection	▸ Wear chemical protective gloves, e.g. PVC. **NOTE:** ▸ The material may produce skin sensitisation in predisposed individuals. The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer.
Body protection	See Other protection below
Other protection	▸ Overalls. · Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity.
Thermal hazards	Not Available

Respiratory protection

Type A-P Filter of sufficient capacity.

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

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

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

Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content. The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.

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	Dark blue highly flammable liquid; does not mix with water.

Physical state	Liquid	**Relative density (Water = 1)**	>1.1
Odour	Not Available	**Partition coefficient n-octanol / water**	Not Available
Odour threshold	Not Available	**Auto-ignition temperature (°C)**	Not Available
pH (as supplied)	Not Available	**Decomposition temperature**	>500
Melting point / freezing point (°C)	-126	**Viscosity (cSt)**	Not Available
Initial boiling point and boiling range (°C)	99-102	**Molecular weight (g/mol)**	Not Applicable
Flash point (°C)	-2.5 (CC)	**Taste**	Not Available
Evaporation rate	Not Available	**Explosive properties**	Not Available
Flammability	HIGHLY FLAMMABLE.	**Oxidising properties**	Not Available
Upper Explosive Limit (%)	7.2	**Surface Tension (dyn/cm or mN/m)**	Not Available
Lower Explosive Limit (%)	1.1	**Volatile Component (%vol)**	Not Available
Vapour pressure (kPa)	Not Available	**Gas group**	Not Available
Solubility in water (g/L)	Immiscible	**pH as a solution (1%)**	Not Available
Vapour density (Air = 1)	Not Available	**VOC g/L**	473.9

9.2. Other information

Not Available

SECTION 10 STABILITY AND REACTIVITY

10.1.Reactivity	See section 7.2
10.2. Chemical stability	▸ Unstable in the presence of incompatible materials.
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

Continued...

10.6. Hazardous decomposition products	See section 5.3

SECTION 11 TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Inhaled	Inhalation of vapours may cause drowsiness and dizziness. Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual. There is some evidence to suggest that the material can cause respiratory irritation in some persons. In rabbits, lethal doses of methylcyclohexane produced conjunctival congestion, breathing difficulties, rapid unconsciousness and convulsions before death. Animal testing showed that a single exposure to isobutyl methacrylate at 0.35% can cause irritation to the upper airways, decreased weight gain, and death. 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. Central nervous system (CNS) depression may include general discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. In general, the alicyclic hydrocarbons produce less discomfort than the corresponding aromatic compounds. Material is highly volatile and may quickly form a concentrated atmosphere in confined or unventilated areas.
Ingestion	Accidental ingestion of the material may be damaging to the health of the individual. Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. Ingestion of methylcyclohexane may be harmful.
Skin Contact	This material can cause inflammation of the skin on contact in some persons. Repeated exposure may cause skin cracking, flaking or drying following normal handling and use. Repeated or prolonged contact with methylcyclohexane may result in itching, burning, redness, slight reduction in skin temperature, skin thickening and possible ulceration. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.
Eye	There is some evidence to suggest that this material can cause eye irritation and damage in some persons.
Chronic	Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. There is some evidence that inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population. Due to almost complete elimination of methylcyclohexane from the body, the danger of chronic poisoning is relatively slight Prolonged and repeated exposure to isobutyl methacrylate can cause liver and kidney damage. There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment.

3046997 Lyreco Correction Pen 7ml Dark Blue	**TOXICITY**	**IRRITATION**
	Not Available	Not Available

titanium dioxide	**TOXICITY**	**IRRITATION**
	Inhalation (rat) LC50: >2.28 mg/l/4hr[1]	Skin (human): 0.3 mg /3D (int)-mild *
	Inhalation (rat) LC50: >3.56 mg/l/4hr[1]	
	Inhalation (rat) LC50: >6.82 mg/l/4hr[1]	
	Inhalation (rat) LC50: 3.43 mg/l/4hr[1]	
	Inhalation (rat) LC50: 5.09 mg/l/4hr[1]	
	Oral (rat) LD50: >2000 mg/kg[1]	

methylcyclohexane	**TOXICITY**	**IRRITATION**
	dermal (rat) LD50: >=3080 mg/kg[1]	Not Available
	Inhalation (mouse) LC50: 36.9 mg/L/2hr[2]	
	Inhalation (mouse) LC50: 41.5 mg/L/2hr[2]	
	Inhalation (rat) LC50: 33-42 mg/l/4hr[1]	
	Oral (rat) LD50: >6160 mg/kg[1]	

iso-butyl methacrylate	**TOXICITY**	**IRRITATION**
	dermal (guinea pig) LD50: >17780 mg/kg[1]	Not Available
	Oral (rat) LD50: 6400 mg/kg[2]	

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

3046997 Lyreco Correction Pen 7ml Dark Blue	No significant acute toxicological data identified in literature search.
TITANIUM DIOXIDE	The material may produce moderate eye irritation leading to inflammation. The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Exposure to titanium dioxide is via inhalation, swallowing or skin contact. **WARNING:** This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.

Continued...

	* IUCLID
ISO-BUTYL METHACRYLATE	The following information refers to contact allergens as a group and may not be specific to this product. Asthma-like symptoms may continue for months or even years after exposure to the material ceases. Where no "official" classification for acrylates and methacrylates exists, there has been cautious attempts to create classifications in the absence of contrary evidence. For isobutyl methacrylates (i-BMA) and n-butyl methacrylates (n-BMA): These have low levels of toxicity orally, through skin contact or by inhalation. 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. Reproductive effector in rats

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

Legend: ✘ *– Data available but does not fill the criteria for classification*
✔ *– Data available to make classification*
⊘ *– Data Not Available to make classification*

SECTION 12 ECOLOGICAL INFORMATION

12.1. Toxicity

Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
titanium dioxide	LC50	96	Fish	9.214mg/L	3
titanium dioxide	EC50	48	Crustacea	>10mg/L	2
titanium dioxide	EC50	72	Algae or other aquatic plants	5.83mg/L	4
titanium dioxide	EC20	72	Algae or other aquatic plants	1.81mg/L	4
titanium dioxide	NOEC	336	Fish	0.089mg/L	4
methylcyclohexane	LC50	96	Fish	1.152mg/L	3
methylcyclohexane	EC50	48	Crustacea	0.326mg/L	2
methylcyclohexane	EC50	72	Algae or other aquatic plants	0.134mg/L	2
methylcyclohexane	EC50	384	Crustacea	0.287mg/L	3
methylcyclohexane	NOEC	72	Algae or other aquatic plants	0.0221mg/L	2
iso-butyl methacrylate	LC50	96	Fish	6.250mg/L	3
iso-butyl methacrylate	EC50	48	Crustacea	=23mg/L	1
iso-butyl methacrylate	EC50	96	Algae or other aquatic plants	=0.29mg/L	1
iso-butyl methacrylate	EC50	96	Algae or other aquatic plants	0.29mg/L	2
iso-butyl methacrylate	NOEC	96	Algae or other aquatic plants	=0.047mg/L	1
Legend:	*Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data*				

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
DO NOT discharge into sewer or waterways.

12.2. Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
titanium dioxide	HIGH	HIGH
methylcyclohexane	LOW	LOW
iso-butyl methacrylate	LOW	LOW

12.3. Bioaccumulative potential

Ingredient	Bioaccumulation
titanium dioxide	LOW (BCF = 10)
methylcyclohexane	LOW (BCF = 321)
iso-butyl methacrylate	LOW (BCF = 61.9)

12.4. Mobility in soil

Ingredient	Mobility
titanium dioxide	LOW (KOC = 23.74)
methylcyclohexane	LOW (KOC = 268)
iso-butyl methacrylate	LOW (KOC = 53.31)

Continued...

12.5. Results of PBT and vPvB assessment

	P	B	T
Relevant available data	Not Available	Not Available	Not Available
PBT Criteria fulfilled?	Not Available	Not Available	Not Available

12.6. Other adverse effects

No data available

SECTION 13 DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Product / Packaging disposal	▸ Recycle wherever possible or consult manufacturer for recycling options.
Waste treatment options	Not Available
Sewage disposal options	Not Available

SECTION 14 TRANSPORT INFORMATION

Labels Required

	
Marine Pollutant	
HAZCHEM	3YE

Land transport (ADR)

14.1.UN number	2296
14.2.UN proper shipping name	METHYLCYCLOHEXANE
14.3. Transport hazard class(es)	Class: 3 Subrisk: Not Applicable
14.4.Packing group	II
14.5.Environmental hazard	Not Applicable
14.6. Special precautions for user	Hazard identification (Kemler): 33 Classification code: F1 Hazard Label: 3 Special provisions: Not Applicable Limited quantity: 1 L

Air transport (ICAO-IATA / DGR)

14.1. UN number	2296
14.2. UN proper shipping name	Methylcyclohexane
14.3. Transport hazard class(es)	ICAO/IATA Class: 3 ICAO / IATA Subrisk: Not Applicable ERG Code: 3H
14.4. Packing group	II
14.5. Environmental hazard	Not Applicable
14.6. Special precautions for user	Special provisions: Not Applicable Cargo Only Packing Instructions: 364 Cargo Only Maximum Qty / Pack: 60 L Passenger and Cargo Packing Instructions: 353 Passenger and Cargo Maximum Qty / Pack: 5 L Passenger and Cargo Limited Quantity Packing Instructions: Y341

Continued...

	Passenger and Cargo Limited Maximum Qty / Pack	1 L

Sea transport (IMDG-Code / GGVSee)

14.1. UN number	2296
14.2. UN proper shipping name	METHYLCYCLOHEXANE
14.3. Transport hazard class(es)	IMDG Class: 3 IMDG Subrisk: Not Applicable
14.4. Packing group	II
14.5. Environmental hazard	Marine Pollutant
14.6. Special precautions for user	EMS Number: F-E, S-D Special provisions: Not Applicable Limited Quantities: 1 L

Inland waterways transport (ADN)

14.1. UN number	2296
14.2. UN proper shipping name	METHYLCYCLOHEXANE
14.3. Transport hazard class(es)	3 | Not Applicable
14.4. Packing group	II
14.5. Environmental hazard	Not Applicable
14.6. Special precautions for user	Classification code: F1 Special provisions: Not Applicable Limited quantity: 1 L Equipment required: PP, EX, A Fire cones number: 1

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

Not Applicable

SECTION 15 REGULATORY INFORMATION

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

TITANIUM DIOXIDE(13463-67-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS

EU European Chemicals Agency (ECHA) Community Rolling Action Plan (CoRAP) List of Substances
EU REACH Regulation (EC) No 1907/2006 - Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles
European Customs Inventory of Chemical Substances ECICS (English)
European Trade Union Confederation (ETUC) Priority List for REACH Authorisation
European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
UK Workplace Exposure Limits (WELs)

METHYLCYCLOHEXANE(108-87-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS

EU European Chemicals Agency (ECHA) Community Rolling Action Plan (CoRAP) List of Substances
EU REACH Regulation (EC) No 1907/2006 - Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles
European Customs Inventory of Chemical Substances ECICS (English)
European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)
European Union (EU) Annex I to Directive 67/548/EEC on Classification and Labelling of Dangerous Substances - updated by ATP: 31
European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI

ISO-BUTYL METHACRYLATE(97-86-9) IS FOUND ON THE FOLLOWING REGULATORY LISTS

EU REACH Regulation (EC) No 1907/2006 - Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles
European Customs Inventory of Chemical Substances ECICS (English)
European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)
European Union (EU) Annex I to Directive 67/548/EEC on Classification and Labelling of Dangerous Substances - updated by ATP: 31
European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI

This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable - : 98/24/EC, 92/85/EC, 94/33/EC, 91/689/EEC, 1999/13/EC, Commission Regulation (EU) 2015/830, Regulation (EC) No 1272/2008 and their amendments

15.2. Chemical safety assessment

For further information please look at the Chemical Safety Assessment and Exposure Scenarios prepared by your Supply Chain if available.

ECHA SUMMARY

Ingredient	CAS number	Index No	ECHA Dossier
titanium dioxide	13463-67-7	Not Available	01-2119954396-27-XXXX, 01-2119489379-17-XXXX

Continued...

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Not Classified, Acute Tox., Carc., Skin Irrit., Eye Irrit., STOT SE 3, Not Classified, Not Classified, Acute Tox., Carc., Skin Irrit., Eye Irrit., STOT SE 3, Not Classified, Not Classified, Acute Tox., Carc., Eye Irrit., STOT SE 3, STOT RE 1, STOT SE 2, Carc., Skin Irrit., Aquatic Chronic 4, STOT RE 2	GHS08, Dgr, Wng, GHS08, Dgr, Wng, GHS08, Wng, Dgr	H302, H351, H315, H319, H332, H335, H302, H351, H315, H319, H332, H335, H332, H335, H372, H350, H315, H318, H302, H312
2	Not Classified, Acute Tox. 4, Carc. 2, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3	GHS08, Dgr, Wng	H302, H351, H315, H319, H332, H335
1	Not Classified	GHS08, Dgr, Wng, GHS08, Dgr, Wng, GHS08, Wng, Dgr	H302, H351, H315, H319, H332, H335, H302, H351, H315, H319, H332, H335, H332, H335, H372, H350, H315, H318, H302, H312
2	Not Classified, Acute Tox. 4, Carc. 2, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3	GHS08, Dgr, Wng	H302, H351, H315, H319, H332, H335
1	Not Classified	GHS08, Dgr, Wng, GHS08, Dgr, Wng, GHS08, Wng, Dgr	H302, H351, H315, H319, H332, H335, H302, H351, H315, H319, H332, H335, H332, H335, H372, H350, H315, H318, H302, H312
2	Not Classified, Acute Tox. 4, Carc. 2, Eye Irrit. 2, STOT SE 3, STOT RE 1, STOT SE 2, Carc. 1B, Skin Irrit. 2, Aquatic Chronic 4, STOT RE 2	GHS08, Wng, Dgr	H332, H335, H372, H350, H315, H318, H302, H312

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
methylcyclohexane	108-87-2	601-018-00-7	01-2119556887-18-XXXX

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Flam. Liq. 2, Asp. Tox. 1, Skin Irrit. 2, STOT SE 3, Aquatic Chronic 2	GHS07, GHS09, GHS02, GHS08, Dgr	H225, H304, H315, H336
2	Flam. Liq. 2, Asp. Tox. 1, Skin Irrit. 2, STOT SE 3, Aquatic Chronic 2, Aquatic Acute 1, Aquatic Chronic 1, Eye Irrit. 2	GHS09, GHS08, Dgr, GHS01	H225, H304, H315, H336, H319, H335

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
iso-butyl methacrylate	97-86-9	607-113-00-X	01-2119488331-38-XXXX

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Flam. Liq. 3, Skin Irrit. 2, Skin Sens. 1, Eye Irrit. 2, STOT SE 3, Aquatic Acute 1	GHS07, GHS02, GHS09, Wng	H226, H315, H317, H319, H335
2	Flam. Liq. 3, Skin Irrit. 2, Skin Sens. 1, Eye Irrit. 2, STOT SE 3, Aquatic Acute 1, Skin Sens. 1B, Not Classified	GHS07, GHS09, Wng, GHS01, Dgr	H226, H315, H317, H319, H335, H336

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
Canada - NDSL	N (methylcyclohexane; iso-butyl methacrylate)
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	Y
Korea - KECI	Y
New Zealand - NZIoC	Y
Philippines - PICCS	Y
USA - TSCA	Y
Legend:	*Y = All ingredients are on the inventory* *N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)*

SECTION 16 OTHER INFORMATION

Full text Risk and Hazard codes

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H350	May cause cancer.
H351	Suspected of causing cancer.

Continued...

H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.

Other information

Ingredients with multiple cas numbers

Name	CAS No
titanium dioxide	13463-67-7, 1317-70-0, 1317-80-2, 12188-41-9, 1309-63-3, 100292-32-8, 101239-53-6, 116788-85-3, 12000-59-8, 12701-76-7, 12767-65-6, 12789-63-8, 1344-29-2, 185323-71-1, 185828-91-5, 188357-76-8, 188357-79-1, 195740-11-5, 221548-98-7, 224963-00-2, 246178-32-5, 252962-41-7, 37230-92-5, 37230-94-7, 37230-95-8, 37230-96-9, 39320-58-6, 39360-64-0, 39379-02-7, 416845-43-7, 494848-07-6, 494848-23-6, 494851-77-3, 494851-98-8, 55068-84-3, 55068-85-4, 552316-51-5, 62338-64-1, 767341-00-4, 97929-50-5, 98084-96-9

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.

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

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
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