Product 2 Pack Epoxy MIO

Revision date 19 November 2020

Revision 1



Safety Data Sheet (SDS)

according to Regulation (EC) No. 1907/2006

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name 2 Pack Epoxy MIO
Other means of identification No information available.

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

Identified uses A two component anti-corrosive coating based on an epoxy resin.

Base part.

For industrial and professional use only.

Uses advised against Any other purpose.

1.3 Details of the supplier of the safety data sheet

Supplier Castle Paints Ltd

Cloncollig Industrial Estate

Tullamore Offaly R35 X993 Ireland

Tel: 353 (0)579351583 info@castlepaints.ie

1.4 Emergency telephone number

Contact person

Emergency telephone Emergency medical information: 8am - 10pm (Seven Days) contact National Poison

Center, Beaumont Hospital. Telephone: +353 (0) 18092166

Section 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (EC 1272/2008)

Physical and chemical hazards Flam. Liq 3- H226

Human health Skin Irrit.2 - H315, Eye Dam. 1 - H318, Skin. Sens 1 - H317, STOT RE 2 - H373

Environment Aquatic Chronic 3 - H412

2.2 Label elements

Contains Quartz (SiO2)

Bisphenol A epoxy resin

butan-1-ol ethylbenzene

Label in accordance with (EC) no. 1272/2008



Signal word Danger

Hazard statements H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H373 May cause damage to organs through prolonged or repeated exposure.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention

P210 Keep away from heat/ sparks/open flames/hot surfaces. — No smoking.

P260 Do not breathe dust/fume/ gas/mist/vapours/spray.

P280 Wear protective gloves/ protective clothing/eye protection/face protection.

Response

P310 Immediately call a POISON CENTER or doctor/physician.

P370 + P378 In case of fire: Use dry chemical, foam or carbon dioxide for extinction.

Storage

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

2.3 Other hazards

None known.

Section 3: Composition/identification of ingredients

3.1 Substance

Not applicable.

3.2 Mixtures

Name	Product identifier	Regulation (EC) No 1272/2008	%
Quartz (SiO2)	CAS-No.: 14808-60-7 EC No.: 238-878-4	STOT RE 2 - H373	35-40%
Bisphenol A epoxy resin	CAS-No.: 25068-38-6 EC No.: 500-033-5 REACH Reg No.: 01-2119456619-26-XXXX	Skin Irrit.2 - H315, Eye Irrit.2A - H319, Skin. Sens 1 - H317, Aquatic Chronic 2 - H411	20-25%
xylene	CAS-No.: 1330-20-7 EC No.: 215-535-7 REACH Reg No.: 01-2119488216-32-XXXX	Acute Tox 4 - H312, Acute Tox 4 - H332, Skin Irrit.2 - H315, Flam. Liq 3- H226	10-15%
butan-1-ol	CAS-No.: 71-36-3 EC No.: 200-751-6 REACH Reg No.: 01-2119484630-38-XXXX	Acute Tox 4 - H302, Skin Irrit.2 - H315, Eye Dam. 1 - H318, Flam. Liq 3- H226, STOT SE 3 - H335, STOT SE 3 - H336	5-10%
ethylbenzene	CAS-No.: 100-41-4 EC No.: 202-849-4	Flam. Liq 2- H225, Asp. Tox - H304, Acute Tox 4 - H332, STOT RE 2 - H373	1-5%
2-methylpropan-1-ol iso-butanol	CAS-No.: 78-83-1 EC No.: 201-148-0	Flam. Liq 3- H226, Skin Irrit.2 - H315, Eye Dam. 1 - H318, STOT SE 3 - H335, STOT SE 3 - H336	0.1-0.9%
2-methoxy-1-methylethyl acetate	CAS-No.: 108-65-6 EC No.: 203-603-9 REACH Reg No.: 01-2119475791-29-XXXX	STOT SE 3 - H336, Flam. Liq 3- H226	0.01-0.09%
n-butyl acetate	CAS-No.: 123-86-4 EC No.: 204-658-1 REACH Reg No.: 01-2119485493-29-XXXX		0.01-0.09%

The full text for all hazard statements are displayed in section 16.

Composition comments

The data shown are in accordance with the latest EC Directives.

Section 4: First aid measures

4.1 Description of first aid measures

General information Provide general first aid, rest, warmth and fresh air. As a general rule, in case of doubt or if

symptoms persist, always call a doctor. First aid personnel must be aware of own risk during

rescue.

Inhalation If this product is inhaled and symptoms occur, move the exposed person to fresh air

promptly. If breathing has stopped or the exposed person experiences difficulty in breathing,

administer artificial respiration and seek immediate medical assistance.

Ingestion If this product is ingested, remove victim immediately from source of exposure. Thoroughly

rinse the mouth with water. Do not induce vomiting. If swallowed, seek medical advice immediately and show the container or label. If vomiting occurs, keep head low so that stomach content doesn't enter the lungs. Never give anything by mouth to an unconscious

person.

Skin contact Remove affected person from source of contamination. Remove contaminated clothing. Wash

exposed area with soap and water. Continue to rinse for at least 15 minutes. Get medical

attention if any discomfort continues after rinsing.

Eye contact Avoid contaminating unaffected eye. Remove contact lenses if present and easy to do so.

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper

eyelids occasionally. Get prompt medical attention.

4.2 Most important symptoms and effects, both acute and delayed

General information The severity of the symptoms described will vary dependent on the concentration and the

length of exposure. Causes damage to organs through prolonged or repeated exposure.

Inhalation of high concentrations of vapours may cause irritation of the respiratory tract or

dizziness.

IngestionMay cause gastrointestinal irritation, nausea, vomiting and diarrhoea.Skin contactMay cause an allergic skin reaction. Contact with skin may cause irritation.Eye contactCauses serious eye damage. May cause redness, swelling, pain and tearing.

4.3 Indication of any immediate medical attention and special treatment needed

Section 5: Fire-fighting measures

5.1 Extinguishing media

Inhalation

carbon dioxide.

Unsuitable extinguishing media High volume water jet.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products May produce hazardous combustion products such as carbon monoxide, carbon dioxide and

unknown hydrocarbons.

Unusual fire & explosion hazards The product is classified as a flammable liquid and vapour. Vapours are heavier than air and

may spread near ground to sources of ignition. Do not allow to enter drains, sewers, basements and workpits, or any place where its accumulation can be dangerous.

Specific hazards When heated and in case of fire, harmful vapours/gases may be formed. Vapour are heavier

than air and may spread along the ground to distant ignition sources. Do not allow run-off

from fire fighting to enter drains or water courses.

5.3 Advice for firefighters

Special fire fighting procedures Ventilate closed spaces before entering them. Water spray should be used to cool containers.

If possible, fight fire from protected position. Containers close to fire should be removed

immediately or cooled with water if safe to do so. Keep up-wind to avoid fumes. **Protective equipment for firefighters** Fire-fighters should wear appropriate protective equipment and self-contained breathing

apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-

fighters (including helmets, protective boots and gloves) conforming to European standard

EN 469 will provide a basic level of protection for chemical incidents.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Wear protective clothing as described in Section 8 of this safety data sheet. Eliminate all

sources of ignition. Avoid inhalation of vapours and contact with skin and eyes. Provide adequate ventilation. In case of inadequate ventilation, use respiratory protection. Keep unnecessary and unprotected personnel from entering. Read and follow manufacturer's

recommendations.

For emergency responders Follow safe handling advice and personal protective equipment recommendations for normal

use of product.

6.2 Environmental precautions

Environmental precautions Do not allow to enter sewers/ surface or ground water. Spillages or uncontrolled discharges

into watercourses must be IMMEDIATELY alerted to the Environmental Agency or other

appropriate regulatory body.

6.3 Methods and material for containment and cleaning up

Spill clean up methodsVentilate and evacuate the area. Eliminate all sources of ignition. Wear protective clothing,

goggles and respirator. Cover drains. DO NOT TOUCH SPILLED MATERIAL Prevent further

leakage or spillage if safe to do so.

Use non sparking tools or equipment for clean up. Absorb spillage with inert, damp, non-combustible material. Ensure that waste and contaminated materials are collected and removed from the work area as soon as possible in a suitably labelled container.

6.4 Reference to other sections

Reference to other sections See section 1 for emergency contact. For personal protection, see section 8. For waste

disposal, see section 13.

Section 7: Handling and storage

7.1 Precautions for safe handling

Handling Provide good ventilation. Wear suitable personal protective equipment, as detailed in Section

8. Keep away from ignition sources. Use non sparking tools. Avoid inhalation of vapours.

Avoid contact with skin and eyes.

Read and follow manufacturer's recommendations. Avoid prolonged or repeated contact. Do

not wear contact lenses.

7.2 Conditions for safe storage, including any incompatibilities

Storage precautions Keep upright, locked up and out of reach of children. Store in tightly closed original

container in a dry, cool and well-ventilated place. Keep away from incompatible materials (see section 10). Containers once opened must be carefully resealed to prevent leakage. Prohibit ignition sources close to storage area. Store at temperatures between 5°C and 25°C.

Storage class Flammable liquid storage.

7.3 Specific end use(s)

Specific end use(s)The identified uses for this product are detailed in Section 1.2. **Usage description**Use only according to directions. Replace and tighten cap after use.

Section 8: Exposure controls/Personal protection

8.1 Control parameters

Component	STD	TWA (8 Hrs)	STEL (1	l5mins)	Notes
Quartz (SiO2)	OEL		0.1 mg/m ³			Respirable dust, BOELV.
xylene	OEL	50 ppm	221 mg/m ³	100 ppm	442 mg/m ³	Mixed isomers, Sk, IOELV.
butan-1-ol	OEL	20 ppm				
ethylbenzene	OEL	100 ppm	442 mg/m ³	200 ppm	884 mg/m ³	Sk, IOELV.
2-methylpropan-1-ol iso-butanol	OEL	50 ppm	150 mg/m ³	75 ppm	225 mg/m ³	
2-methoxy-1-methylethyl acetate	OEL	50 ppm	275 mg/m ³	100 ppm	550 mg/m ³	Sk, IOELV.
n-butyl acetate	OEL	150 ppm	710 mg/m ³	200 ppm	950 mg/m ³	

Ingredient comments

Ireland, Occupational Exposure Limits 2020.

8.2 Exposure Controls

Protective equipment



Hand protection

Engineering measures Provide adequate ventilation, including appropriate local extraction, to ensure that the

defined occupational exposure limit is not exceeded. Where necessary use lighting and electrical equipment designed for use in atmospheres where flammable vapours are present,

and which can direct static electricity by grounding equipment.

Respiratory equipment If the respirator is the sole means of protection, use a supplied air self contained breathing

apparatus operated in positive pressure mode. Use respirators and components tested and approved under appropriate government standards such as CEN (EU). Use respiratory protection as specified by an industrial hygienist or other qualified professional. Change

filters frequently.

If ventilation is insufficient, suitable respiratory protection must be provided. Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. Type A/organic vapour protective components recommended. Where

aerosols are in use, use self contained breathing apparatus with a type AX filter or

appropriate combined filter (e.g. AX-P3), in compliance with EN 371.

Selection of the glove material depends on consideration of the penetration times, rates of diffusion and degradation, and concentration specific to the workplace. Where hand contact with the product may occur use gloves approved to relevant standards (e.g. Europe: EN374.)

Gloves must be inspected prior to use.

Suggested material: Neoprene/PVA. >8 hours (breakthrough time). Consult manufacturer for specific advice on material. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of

contaminated gloves after use in accordance with applicable laws and good laboratory

practices. Change gloves regularly.

Eye protection Wear safety goggles or face shield to prevent any possibility of eye contact. Use equipment

for eye protection tested and approved under appropriate government standards such as ${\rm EN}$

166(EU).

Other protection Wear appropriate clothing to prevent any possibility of skin contact. Fire/chemical resistant

 $full\mbox{-length overalls and boots.}$

Protective clothing should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. The selected

clothing must satisfy the European norm standard EN 943.

Hygiene measures Handle in accordance with good industrial hygiene and safety practice. Observe normal

hygiene standards. Keep container tightly closed. Do not eat, drink or smoke during work.

Wash promptly if skin becomes contaminated.

Process conditions Ensure that eye flushing systems and safety showers are located close by in the work place.

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

AppearanceLiquid.ColourGrey.OdourAromatic.

Odour threshold - lower No information available as testing has not been completed.

Odour threshold - upperNo information available as testing has not been completed.

pH-Value, Conc. Solution 9.0 - 9.5

pH-Value, Diluted solution No information available as testing has not been completed.

Melting point No information available as testing has not been completed.

Initial boiling point and boiling

range

> 35 °C

Flash point 23.00 - 60.00 °C

Evaporation rate No information available as testing has not been completed.

Flammability state Flammable liquid and vapour.

Flammability limit - lower(%) No information available as testing has not been completed.

Flammability limit - upper(%) No information available as testing has not been completed.

Vapour pressure No information available for the mixture as testing has not been completed. Xylene: 0,82 kPa

[room temperature].

Vapour density (air=1) No information available for the mixture as testing has not been completed. Xylene: 3,7 [Air

= 1]. Bisphenol A epoxy resin at 25 °C: 1,16.

Relative density 1.2g/cm³ @ 20.00 °C

Bulk density No information available as testing has not been completed.

Solubility Not miscible with water.

Decomposition temperature No information available as testing has not been completed.

Partition coefficient; n-

Octanol/Water

No information available for the mixture as testing has not been completed. Xylene: Log Kow

(Log Pow) 3,12 to 3,2.

Auto ignition temperature (°C) No information available for the mixture as testing has not been completed. Xylene: 488°C.

Viscosity Dynamic Viscosity: 1,280 cP @ 20°C. Kinematic Viscosity: > 20.5 mm²/s @ 40°C.

Explosive properties Not classified as explosive.

Oxidising properties The product does not meet the criteria to be classified as oxidising.

9.2 Other information

Molecular weight The product is a mixture, molecular weight data is not required.

Volatile organic compound EU limit value is 500 g/l (Cat A/j)(2010). Product contains max. 490 g/l.

Other information None noted.

Section 10: Stability and reactivity

10.1 Reactivity

Reactivity Reaction with: strong oxidising substances and acids.

10.2 Chemical stability

Stability Stable under normal temperature conditions and recommended use.

10.3 Possibility of hazardous reactions

Hazardous reactions Flammable liquid and vapour.

For information on hazardous reactions see section 10.1.

Hazardous polymerisationNo information available for the mixture as testing has not been completed. **Polymerisation description**No information available for the mixture as testing has not been completed.

10.4 Conditions to Avoid

Conditions to avoid Heat, sparks, open flames, temperature extremes and direct sunlight.

10.5 Incompatible materials

Materials to avoid Keep away from incompatibles such as oxidizing agents, acids, alkalis. Do not mix with other

chemicals unless listed on directions.

10.6 Hazardous decomposition products

Hazardous decomposition products In combustion emits toxic fumes. Combustion products may include and are not limited to:

Oxides of carbon. Unburned hydrocarbons.

Section 11: Toxicological information

11.1 Information on toxicological effects

Toxicological information No toxicological information for the overall finished product.

Acute toxicity (Oral LD50)

Acute toxicity (Dermal LD50)

Acute toxicity (Inhalation LD50)

No information available as testing has not been completed.

No information available as testing has not been completed.

No information available as testing has not been completed.

Serious eye damage/irritation Causes serious eye damage.

Skin corrosion/irritation The product is classified as a skin corrosion/irritation hazard.

Respiratory sensitisationThe product is not classified as a respiratory hazard. **Skin sensitisation**The product is classified as a skin sensitisation hazard.

Germ cell mutagenicity The product is not classified as a mutagen.

Carcinogenicity The product is not classified as a carcinogen hazard.

Specific target organ toxicity - Single exposure:

STOT - Single exposureThe product is not classified as a single exposure specific target organ toxin.

Specific target organ toxicity - Repeated exposure:

STOT - Repeated exposureThe product is classified as a repeat exposure specific target organ toxin.

Inhalation Inhalation of high concentrations of vapours may cause irritation of the respiratory tract or

dizziness.

IngestionMay cause gastrointestinal irritation, nausea, vomiting and diarrhoea.Skin contactMay cause an allergic skin reaction. Contact with skin may cause irritation.Eye contactCauses serious eye damage. May cause redness, swelling, pain and tearing.

Waste management When handling waste, consideration should be made to the safety precautions applying to

handling of the product.

Routes of entryEye and skin contact, ingestion or inhalation. **Target organs**Eyes, skin, digestive system, respiratory system.

Aspiration hazards: The product is not classified as an aspiration hazard. **Reproductive toxicity:** The product is not classified as a reproductive hazard.

Name	LD50 oral	LD50 dermal	LD50 inhalation
ethylbenzene	3500.00mg/kg Rat	>5000.00mg/kg Rabbit	
xylene	4300.00mg/kg Rat		5000.00ppmV Rat 4 Hours
butan-1-ol	500.00mg/kg Rat	2000.00mg/kg Rat	
Bisphenol A epoxy resin	>15000.00mg/kg Rat	23032.00mg/kg Rabbit	
n-butyl acetate	>10000.00mg/kg Rat	>14000.00mg/kg Rabbit	>21.10mg/l (vapours) Rat 4 Hours
2-methoxy-1-methylethyl acetate	>5000.00mg/kg Rat		

Section 12: Ecological information

12.1 Toxicity

Acute toxicity - Fish

Acute toxicity - Aquatic invertebrates

No information available as testing has not been completed.

Acute toxicity - Aquatic plants

Acute toxicity - Microorganisms

Chronic toxicity - Fish

Chronic toxicity - Aquatic

No information available as testing has not been completed.

No information available as testing has not been completed.

No information available as testing has not been completed.

No information available as testing has not been completed.

No information available as testing has not been completed.

invertebrates

Chronic toxicity - Aquatic plantsNo information available as testing has not been completed.
No information available as testing has not been completed.

Ecotoxicity Harmful to aquatic life with long lasting effects.

Eco toxilogical information No ecological toxicity data available for the overall finished product.

12.2 Persistence and degradability

Degradability No information available for the mixture as testing has not been completed.

Xylene: Readily degradable.

Biological oxygen demandNo information available as testing has not been completed. **Chemical oxygen demand**No information available as testing has not been completed.

12.3 Bioaccumulative potential

Bioaccumulative potential No information available for the mixture as testing has not been completed.

Ethylbenzene: Low. Log Pow 3,6.

Xylene: Low. Log Pow 3,12. BCF 8.1 to 25.9.

Bioaccumulation factor Partition coefficient; nNo information available as testing has not been completed. No information available for the mixture as testing has not been completed. Xylene: Log Kow

(Log Pow) 3,12 to 3,2.

12.4 Mobility in soil

Octanol/Water

Mobility No information available as testing has not been completed.

12.5 Results of PBT and vPvB assessment

Results of PBT and vPvB assessment The product does not contain any PBT or vPvB substances.

12.6 Other adverse effects

Other adverse effects None known.

Name		U	Acute toxicity (Aquatic plants)
lathvihanzana	J. J		EC50 72 Hours 4.60mg/l EC50 96 Hours 3.60mg/l
	LC50 96 Hours 13.40mg/l Pimephales promelas (Fat-head Minnow)		
	LC50 96 Hours >100.00mg/l Pimephales promelas (Fat-head Minnow)		
	J. J.		EC50 72 Hours 11.00mg/l Scenedesmus Subspicatus
	LC50 96 Hours 18.00mg/l Pimephales promelas (Fat-head Minnow)		EC50 72 Hours 675.00mg/l Scenedesmus Subspicatus
2-methoxy-1-methylethyl acetate	LC50 96 Hours >100.00ppm Freshwater Fish		

Section 13: Disposal considerations

Waste management When handling waste, consideration should be made to the safety precautions applying to

handling of the product.

13.1 Waste treatment methods

Disposal methods Dispose of waste and residues in accordance with local authority requirements, and in

accordance with the European Directives on waste and hazardous waste. For waste disposal,

use a licensed industrial waste disposal agent.

Section 14: Transport information

14.1 UN number

 UN no. (ADR)
 UN1263

 UN no. (IMDG)
 UN1263

 UN no. (IATA)
 UN1263

14.2 UN proper shipping name

ADR proper shipping name
PAINT OF PAINT RELATED MATERIAL
PAINT OF PAINT RELATED MATERIAL
PAINT OF PAINT RELATED MATERIAL
PAINT
PAINT

14.3 Transport hazard class(es)

ADR class 3
IMDG class 3
IATA class 3

Transport labels



14.4 Packing group

ADR/RID/ADN packing group III
IMDG packing group III
IATA packing group III

14.5 Environmental hazards

ADR No IMDG No IATA No

14.6 Special precautions for user

EMS F-E, S-E **Emergency action code** A3 A72 A192

Hazard no. (ADR) 30 **Tunnel restriction code** (D/E)

14.7 Transport in bulk according to annex II of MARPOL73/78 and the IBC code

Not applicable.

Section 15: Regulatory information

$\underline{\textbf{15.1 Safety, health and environmental regulations/Legislation specific for the substance or mixture}$

EU legislation Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16

December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 with amendments. The UN Globally Harmonized System (GHS) Safety Data Sheet format (Annex IV) is implemented as Annex II of REACH EU No 830/2015 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals

(REACH).

Approved code of practice 2020 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents)

Regulations (2001-2015) and the Safety, Health and Welfare at Work (Carcinogens)

Regulations (2001-2019)

Chemical safety assessment No chemical safety assessment has been carried out.

Section 16: Other information

General information This Safety Data Sheet is in accordance with REACH Annex II, (EC) No 830/2015.

Revision comments

Revision date

This is first issue.

19 November 2020

Revision

Safety data sheet status Approved.

Hazard statements in full

H373 May cause damage to organs through prolonged or repeated exposure .

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.H319 Causes serious eye irritation.

H411	Toxic to aquatic life with long lasting effects.
H226	Flammable liquid and vapour.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H302	Harmful if swallowed.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
Н336	May cause drowsiness or dizziness.
H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H412	Harmful to aquatic life with long lasting effects.

Disclaimer

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use. Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations. The mixture must not be used for other uses than those specified in section 1 without having first obtained written handling instructions. It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations. The information in this safety data sheet must be regarded as a description of the safety requirements relating to the mixture and not as a guarantee of the properties thereof.