

Safety Data Sheet According to Regulation (EC) 1907/2006

1. Identification of the Substance or Mixture and the Company

1.1 Product Identifier

Article Description: CTC/CTS fibre reinforced plastic sheets
(sheet material/ pre-cut)
(carbon thermoplastic Metcore® - CTS UNIDIRECTIONAL)

Article Group: PL12XX-X, PL13XX-X, PL14XX-X, SZ12XX-X

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Recommended use(s): lamination resin

Not recommended use(s): applications in which the liquid monomer comes in contact with the skin or the nails.

1.3 Details of the Supplier of the Safety Data Sheet

Manufacturer: Evonik Industries AG
Werk Röhm Darmstadt
Product Safety
Kirschenallee
64293 Darmstadt (Germany)

Phone: +49 6151 18 01
Email: cmda@evonik.com
Contact support at:
+49 6151 18 40 76

Supplier: Company FIOR & GENTZ Gesellschaft für Entwicklung und Vertrieb von orthopädietechnischen Systemen mbH
Dorette-von-Stern-Straße 5
21337 Lüneburg (Germany)
Phone: +49 4131 24445-0
Fax: +49 4131 24445-57
Email: info@fior-gentz.de

1.4. Emergency Telephone Number

+49 6151 18 43 42 (Darmstadt)
Emergency telephone number in case of intoxications:
Emergency telephone number Mainz+049 613119240

2. Hazards Identification

2.1. Classification of the Substance or Mixture

This mixture is classified as hazardous according to CLP/GHS.

Regulation (EC) No. 1272/2008

Flammable Liquids	hazard category 2	H225
Skin Burn/Skin Irritation	hazard category 2	H315
Skin Sensitisation	hazard category 1B	H317
Specific Target Organ Toxicity (single exposure) (inhalative)	hazard category 3	H335

Labelling According to EU Directive 67/548/EEC or 1999/45/EC

Highly flammable.
Irritating to respiratory system and skin.
May cause sensitisation by skin contact.

2.2 Label Elements**Regulation (EC) No. 1272/2008**

Signal Word
GHS Pictogram

Danger

Hazard Warning

Highly flammable liquid and vapour. (H225)
Causes skin irritation. (H315)
May cause an allergic skin reaction. (H317)
May cause respiratory irritation. (H335)

Safety Instruction
(Prevention)

Keep away from heat, hot surfaces, sparks, open flames and other ignition source. No smoking. (P210)
Avoid inhalation of dust/smoke/gas/mist/vapours/aerosols. (P261)
Wear protective gloves/clothing, eye and face protection. (P280)

Safety Instruction
(Reaction)

IN CASE OF SKIN CONTACT: Wash with plenty of water/soap.
(P302 + P352)

Safety Instruction
(Disposal)

The contents/container must be disposed of in accordance with local regulations. (P501)

Further Information

Nota D

Hazardous Component(s)
which Must Be Listed
on the Label:

contains methyl methacrylate

2.3 Other Information

Substance may become electrostatically charged.
The product is normally supplied stabilised. However, it can polymerise under heat development after the storage time and/or the storage temperature have been significantly exceeded.

3. Composition/Information on Ingredients

3.1 Materials

3.2 Mixtures

Regulation (EC) No. 1272/2008

Components	EINECS No. REACH No. CAS No.	Content	Hazard Classes/ Hazard Category/ Hazard Warning
methyl methacrylate	201-297-1 01-2119452498-28 80-62-6	40.0 - 70.0%	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Skin Sens. 1B, H317 STOT SE 3 (inhalative), H335

Hazardous Ingredients According to Directive 67/548/EEC or Directive 1999/45/EC

Components	CAS No.	Content	Hazard Symbol(s)/ R-Phrases	
methyl methacrylate	80-62-6	40.0 - 70.0%	F, Xi	11-37/38-43

4. First Aid Measures

4.1 Description of First Aid Measures

General Information:

Take off immediately all contaminated clothing. Medical help is necessary in case of symptoms which are obviously due to exposing the product to skin or eyes or the inhalation of its dusts.

Inhalation:

Set the affected person on fresh air. In case of danger of unconsciousness, place and transport in recovery position; if necessary, apply artificial respiration. Get medical attention.

Skin Contact:

After contact with skin, immediately wash with water and soap. Remove contaminated clothing and wash them before reusing. In case of skin irritation seek medical attention.

Eye Contact: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Ingestion: Do not induce vomiting. Seek medical attention. Never give anything by mouth to an unconscious person.

4.2 Most Important Symptoms or Effects, Both Immediate and Delayed

Headache, dizziness, causes skin and eye irritation, sensitisation of skin

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

Treat symptomatically.

5. Firefighting Measures

5.1 Extinguishing Media

Suitable Extinguishing Media: foam, extinguishing powder, carbon dioxide

Unsuitable Extinguishing Media for Safety Reasons: water

5.2 Special Hazards Arising from the Substance or Mixture

In case of fire, carbon monoxide, carbon dioxide and organic decomposition products can be released.

5.3 Advice for Firefighters

Use self-contained breathing apparatus (SCBA isolated).

6. Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

Ensure adequate ventilation. Use personal protective clothing. Keep away from ignition sources. Use respiratory protection if vapour/dust/aerosol is generated. Avoid contact with skin, eyes and clothing.

6.2 Environmental Protection Measures

Do not empty into drains/surface water/ground water. Collect spilled product. If the product contaminates rivers and lakes or drains, inform respective authorities.

6.3 Methods and Material for Containment and Cleaning

Secure or remove all ignition sources. Larger quantities: soak up material (pumping). Observe explosion protection! Smaller quantities and/or residues: soak up in absorbent material (e.g. sand, diatomaceous earth, acid-binding agent, general-purpose binder). Sweep up or absorb spilled material and place in a suitable container for disposal. Ventilate the area with fresh air. Disposal according to regulations.

6.4 Reference to Other Sections

For personal protection see section 8.

7. Handling and Storage

Advice for Safe Handling:

Keep container tightly closed. Ensure an appropriate ventilation. Open container carefully as content may be under pressure. Use only explosion-proof equipment. When using do not eat, drink or smoke.

Advice on Protection Against Fire and Explosion:

Keep away from sources of ignition – No smoking. Prevent electrostatic charge. In case of fire cool fire exposed containers with water. Can form an ignitable mixture with air when heating material above flash point and/or when spraying or atomising (nebulization).

Use only explosion-proof equipment. Vapours are heavier than air, they spread on the ground.

7.1 Conditions for Safe Storage, Including any Incompatibilities

Storage Rooms and Container Requirements

Only fill container to approx. 90%, as oxygen (air) is required for stabilisation. For large storage tanks, ensure sufficient oxygen (air) supply to ensure stability. Store in a cool and dry place. Protect from sunlight. Protect from contaminations. Protect from heat and direct solar radiation. Keep away from open flames, hot surfaces and sources of ignition. Keep the container tightly closed.

Keep only in the original container at temperature not exceeding 30°C.

7.2 Specific End Use(s)

none

8. Exposure Control and Limitations/Personal Protective Equipment

8.1 Control Parameters

Ingredients or Decomposition Products According to Item 10 with Occupational Exposure Limits to be Controlled

Methyl Methacrylate 80-62-6		
occupational exposure limit according TRGS 900; 2009	210mg/m ³	50ml/m ³
peak limitation exceedance factor: 2(l)		
Y – There is no risk of foetal damage if you respect workplace limit values and maximum biological limit value (BLV).		
occupational exposure limit value 2009/161/EC 2009		50 ppm
occupational exposure limit value 2009/161/EC (15 minutes) 2009		100 ppm

8.2 Limiting and Monitoring of Exposure

For monitoring procedures see e.g. "Empfohlene Analysenverfahren für Arbeitsplatzmessungen", monograph series of the Federal Institute for Occupational Safety and Health (Germany) and "NIOSH Manual of Analytical Methods", National Institute for Occupational Safety and Health

Protective Measures:	Do not inhale vapours. Avoid contact with skin and eyes. Emergency shower and eye shower should be available.
Hygiene Measures:	Take off immediately all contaminated clothing. Separate storage of working clothes. Respect the usual manner customary to hygiene measures. Thoroughly clean and care for skin after handling the product.
Respiratory Protection:	respiratory protection at high at high concentrations, short-term filter device, filter A

Hand Protection:	butyl rubber gloves (0.3mm), breakthrough time ca. 60min (EN 374). Since different conditions often occur in practice, this information can only be a guide when selecting a suitable chemical protective glove. In particular, they do not replace suitability tests by the end user.
Splash Guard:	gloves made of nitrile rubber (at least 0.11mm thick)
General Information:	Protective gloves should be changed regularly, particularly after intensive contact with the product. The appropriate type of glove must be selected for each workplace.
Eye Protection:	tightly fitting safety glasses
Skin and Body Protection:	In case of handling with larger quantities: face protection, chemical resistant boots and apron.

9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Appearance:	liquid
Colour:	colourless
Odour:	ester-like
Solidification Temperature:	not determined
Boiling Temperature:	ca. 100°C (1.013hPa)
Flash Point:	10°C (DIN 51755) (methyl methacrylate)
Ignition Temperature:	430°C (DIN 51794) (methyl methacrylate)
Impact Sensitivity:	not sensitive to impact
Lower Explosion Limit:	2,1% (V) (methyl methacrylate)
Upper Explosion Limit:	12,5% (V) (methyl methacrylate)
Vapour Pressure:	< 40hPa (20°C)
Density:	1.02g/cm ³ (20°C)
Relative Vapour Density Related in the Air:	> 1 (20°C)
Water Solubility:	ca. 16g/l (20°C)
Solubility (Qualitative):	miscible with most organic solvents
pH value:	not applicable
Viscosity (Dynamic):	2.200 - 3.400mPa.s (23°C), (Brookfield)
Viscosity (Kinematic):	ca. 2.200 - 3.500mm ² /s (23°C)

9.1 Other Information

none

10. Stability and Reactivity

10.1 Reactivity

see section 10.2

10.2 Chemical Stability

stable under normal conditions

10.3 Possibility of Hazardous Reactions

In the presence of radical formers (e.g. peroxides), reducing substances and/or heavy metal ions, polymerisation under heat development is possible. The product is normally supplied stabilised. However, it can polymerise under heat development after the storage time and/or the storage temperature have been significantly exceeded.

10.4 Conditions to Avoid

Heat and ignition sources, ageing, contamination, oxygen-free atmosphere.

10.5 Incompatible Materials

Peroxides, amines, sulfur compounds, heavy metal ions, alkali compounds, reducing and oxidizing agents.

10.6 Hazardous Decomposition Products

None if used properly.

11. Toxicological Information**11.1 Information on Toxicological Effects**

Acute Oral Toxicity:	LD50, rat, OECD 401, related to substance: methyl methacrylate, practically no toxic effect if swallowed	> 5,000 mg/kg
Acute Inhalative Toxicity:	LC50 rat, related to substance: methyl methacrylate, slightly toxic effect if swallowed	29.8mg/l
Acute Dermal Toxicity:	LD50 rabbit, related to substance: methyl methacrylate, practically no toxic effect after contact with skin.	> 5,000mg/kg
Skin Burn/Skin Irritation:	rabbit, 24h, FDA 1959 Draize, occlusive, related to substance: methyl methacrylate	non-irritant
Serious Eye Damage/Eye Irritation:	rabbit, Draize, related to substance: methyl methacrylate	non-irritant
Sensitisation of Respiratory Tract/Skin:	In sensitisation tests on guinea pigs with and without adjuvant, both positive and negative results were obtained. Related to substance: methyl methacrylate. Allergic reactions with different incidences have been observed in humans (symptoms: headache, eye irritations, skin affections). Related to substance: methyl methacrylate	
Evaluation Mutagenicity:	Both positive and negative results in vitro mutagenicity/genotoxicity tests. No experimental evidence for genotoxicity in vivo available. Overall analysis: not mutagenic according to internationally accepted criteria. Related to substance: methyl methacrylate	
Carcinogenicity:	Non-carcinogens in inhalation and feeding studies in rats, mice and dogs. Fabric cover: methyl methacrylate	
Reproductive Toxicity/Teratogenicity:	No evidence for reproductive toxic effects was observed in animal experiments. Related to substance: methyl methacrylate	

Repeated Dose Toxicity:	rat, inhalative, 2 years finding: mucous membrane damage in the nose at 400ppm related to substance: methyl methacrylate rat, in drinking water, 2 years finding: no toxic effects related to substance: methyl methacrylate
General Information:	It is necessary to avoid contact with eyes and skin as well as inhalation of product dusts.

12. Ecological Information

12.1 Toxicity

Aquatic Toxicity, Fishes:	LC50 Oncorhynchus mykiss (rainbow trout), OECD 203, flow-through, GLP, 96h related to substance: methyl methacrylate	>79mg/l
Aquatic Toxicity, Invertebrate Animals:	EC50, Daphnia magna, OECD 202, flow-through, 48h related to substance: methyl methacrylate NOEC, Daphnia magna, OECD 202 part 2, flow-through, 21 d related to substance: methyl methacrylate	69mg/l 37mg/l
Aquatic Toxicity, Algae/Aquatic Plants:	EC3 Scenedesmus quadricauda, DIN 38412 part 9), 8d related to substance: methyl methacrylate	37mg/l
Toxicity to Microorganisms:	EC0 Pseudomonas putida related to substance: methyl methacrylate	100mg/l

12.2 Persistence and Degradability

Persistence and Degradability:	Easy biodegradability according to OECD criteria. The substance is rapidly photochemically degraded in the air.
Biodegradation:	readily biodegradable, OECD 301 C, 14d related to substance: methyl methacrylate

12.3 Bioaccumulation Potential

Bioaccumulation:	Due to the distribution coefficient n-octanol-water (log Pow), enrichment in organisms is not to be expected.
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12.4 Mobility in Soil

Mobility:	Binding to the solid soil phase, sediment or sewage sludge is not to be expected. The substance slowly evaporates from the water surface into the atmosphere. If the substance is released into the environment, it remains preferentially in the compartment into which it has escaped.
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12.5 Results of PBT and vPvB Assessment

PBT and vPvB Assessment: PBT: no
vPvB: no

12.6 Other Harmful Effects

General Information: Prevent entering soil, aquatic environment and sewer.

13. Disposal Considerations**13.1 Waste Treatment Methods**

Product: The waste is hazardous. Dispose in suitable and approved installation after consulting with the operator of the waste disposal facility and the pertinent local authorities.

Uncleaned Packaging: Contaminated packaging must be emptied optimally. They can then be recycled after appropriate cleaning.

EWC Waste Code: 07 02 08
Wastes from the manufacture, formulation, supply and use (MFSU) of plastics, synthetic rubber and man-made fibres – other reaction and distillation residues.
Please check waste code according to original location at your company.

14. Transport Information**14.1 UN Number**

see section 14.2

14.2 UN Proper Shipping Name**Land Transport ADR/GGVSEB**

UN 1866 RESIN SOLUTION 3, II, (D/E)

Hazard No.: 33

Land Transport RID/GGVSEB

UN 1866 RESIN SOLUTION 3, II

Hazards No.: 33

Inland Waterway Transport ADN/GGVSEB

UN 1866 RESIN SOLUTION 3, II

Maritime Transport IMDG/GGVSee

UN Number	1866
Class	3
EmS	F-E, S-E
Marine Pollutant	no
Packaging Group	II
Proper Shipping Name	RESIN SOLUTION

Air Transport ICAO/IATA

UN Number	1866
Class	3
Packaging Group	II
Proper Shipping Name	RESIN SOLUTION

Remarks

ADR	Special Regulation 640D
RID	Special Regulation 640D
ADNR	Special Regulation 640D

14.3 Transport Hazard Categories

see section 14.2

14.4 Packaging Group

see section 14.2

14.5 Environmental Hazards

If not mentioned in 14.2, then not applicable.

14.6 Special Precautions for Users

see section 14.2

14.7 Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

transport approval see regulations

15. Regulatory Information

15.1 Safety, Health and Environmental Protection Regulation/Specific Legal Regulations for the Substance or Mixture

National Regulations

Technical Instructions Air	5.2.5	
Water Hazard Class	1 (VwVwS, appendix 4)	
Application Restrictions	Observe for adolescents. Observe for child bearing and nursing mothers (EC Directive 92/85/EEC).	
Chemical Safety Assessment	No chemical safety assessment has been performed for this product.	
Notification Status	REACH (EU)	pre-registered, registered or excluded
	TSCA (USA)	listed or exempted
	DSL (CDN)	listed or exempted
	AICS (AUS)	listed or exempted
	METI (J)	listed or exempted
	ECL (KOR)	listed or exempted
	PICCS (RP)	listed or exempted
	IECSC (CN)	listed or exempted

16. Other Information

Other Information: The product is normally supplied stabilised. However, it can polymerise under heat development after the storage time and/or the storage temperature have been significantly exceeded.

Relevant H-Phrases Referring to Section 3:

methyl methacrylate
 H225 Highly flammable liquid and vapour.
 H315 Causes skin irritation.
 H317 May cause an allergic skin reaction.
 H335 May cause respiratory irritation.

Relevant R-Phrases Referring to Section 3:

R11 Highly flammable
 R37/38 Irritating to respiratory system and skin.
 R43 May cause sensitisation by skin contact.

Bibliography:

Relevant manuals and publications
 Own tests. Own ecotoxicological and toxicological tests.
 Ecotoxicological and toxicological tests carried out by other producers.
 SIAR
 OECD-SIDS.
 RTK public files

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