浩汎企業有限公司
Forth Track Enterprise Co., Ltd.
Carbon & Composites Prepregs

EHM32 / EHM213-1 SAFETY DATA SHEET (SDS-US)

SECTION 1: Identification

1.1 Product Identifier

Product Name: EHM32 / EHM213-1 Woven fabric, unidirectional prepregs
Designations: Carbon fiber or glass fiber/epoxy resin
Chemical Family : Formulated epoxy resin impregnated material with Carbon Fiber (PAN based) or Glass fiber

1.2 Recommended Use and Restrictions on Use

Material is used to fabricate composite articles by curing under heat and pressure

1.3 Supplier Information

Manufacturer: Diing – Jin Enterprise Co., Ltd. (Forth Track Co., Ltd.)
No. 39-6, Xinfu. Xinfu Li,
Yuanli Town, Miaoli County 358,
Taiwan

Telephone (General): +886 37 857 195 [8:00am – 5:00pm, M-F, CST]

SECTION 2: Hazard Identification

2.1 Classification of the Substance or Mixture

According GHS standard and US **OSHA 29 CFR 1910.1200 HCS**

Skin Irritation 2
Skin Sensitization 1
Eye Irritation 2A

2.2 Label Elements
Warning

Hazard Statement
H315 – Causes skin irritation
H317 – May cause allergic skin reaction
H319 – Causes serious eye irritation

Precautionary statement
Prevention: P264 – Wash thoroughly after handling

P261 – Avoid breathing dust / fume / gas / mist / vapor / spray
P272 – Contaminated work clothing should not be allowed not be allowed out of the workplace.
P280 – Wear protective gloves and eye/face protection.

Response: P302 + P352 - IF ON SKIN: Wash wit plenty of soap and water.
P332 + P313 – If skin irritation occurs: Get medical advice/attention.
P362 – Take off contaminated clothing and wash before reuse.
P363 – Wash contaminated clothing before reuse.
P321 – Specific treatment, see supplemental first aid information.
P333 + P313 – If skin irritation or rash occurs: Get medical advice/ attention.
P305 +P351 +P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 +P313 – If eye irritation persists: Get medical advice/attention.

Storage disposal: P501 – Dispose of content and/or container in accordance with local, regional, national, and/or international regulations

2.3 Other Hazards

Under United States Reguations (29 CFR 1910.1200 – Hazard Communication Standard), this product is considered hazardous

Section 3 - Composition/Information on Ingredients

3.1 Chemical Identity

Hot melt Epoxy Prepreg supplied on reinforcement fiber or matrix

3.2 CAS Numbers, Unique Identifiers

Chemical Name	CAS #	WT. %	GHS Classifications
Glass – Fiber	65997-17-3	50-80	Not Classified
Carbon Fiber	7440-44-0	50-80	Not Classified
Aramid Fiber	26125-61-1	50-80	Not Classified
Epoxy Resin Mixture	Proprietary	15-50	H315 – Causes skin irritation; H319- Causes serious eye irritation; H317- May cause an allergic skin reaction; H335 May cause respiratory irritation. H401 – Toxic to aquatic life; H411 – Toxic to aquatic life with long lasting effects
Epoxy Resin	Proprietary	10-30	H317- May cause an allerfic skin reaction; H411 – Toxic to aquatic life with long lasting effects
Hardener / Catalyst	Proprietary	2-15	Not Classified
Additives	Proprietary	1-5	Not Classified

Section 4 – First Aid Measures

4.1 Description of First Aid Measures

Inhalation: Remove to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. Get medical attention if symptoms occurs.

Skin: Wash the contaminated area of body with soap and fresh water. Remove all contaminated clothing. If irritation develops and persists, get medial attention.

Eye: In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.

Ingestion: If ingested, obtain medical attention immediately.

4.2 Most Important Symptoms and Effects, Acute and Delayed

Refer to Section 11 – Toxicological Information

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

Notes to Physician: All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may be occurred.

Section 5 – Firefighting Measures

5.1 Extinguishing

Suitable Extinguishing Media: LARGE FIRE: Water spray, fog or regular foam
SMALL FIRES: Dry chemical, CO2, water spray or regular foam

Unsuitable Extinguishing Media: No data available.

5.2 Special Hazards Arising From the Substance or Mixture

Specific Hazards: When heated and in case of fire, irritating vapors/gases may be emitted.

Usual Fire and Explosion Hazards: Will burn when exposed to fire, may result in exotherm, which can generate acrid smoke and fumes.

Hazardous Combustion Products: Decomposition and combustion by products may be toxic.

5.3 Special Protective Equipment and Precautions for Firefighters

Wear positive pressure, self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing

Section 6 – Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

For non-emergency personnel:

a. Remove ignition sources and ensure adequate ventilations

b. See section 8 for personal protective equipment to prevent contamination on skin, eyes and clothing

For Emergency Responders:

a. See section 5.3 for suitable gear/equipment in emergency situations

6.2 Environmental Precautions

Avoid release to the environment

6.3 Methods and Material for Containment and Clean Up

Pick up or sweep material and clean any contaminated surfaces. For waste disposal, see Section 13.

Section 7 – Handling and Storage

7.1 Precautions for Safe Handling

Handling: Prior to use, thaw thoroughly before removing product from its bag, in order to avoid moisture condensation/absorption related molding issues. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Protective gloves are recommended to prevent skin contact. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not get on skin or clothing. Do not ingest. Avoid breathing vapor, fumes, or mist. Avoid to release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Do not reuse containers/packaging.

7.2 Conditions for Safe Storage, Including Any Incompatibilities

Storage: Keep container closed in a dry place. Store at 0 F (-18 C) to prolong shelf life. Storing at room temperature, or above, or exposure to sunlight/UV may appreciably shorten useful life of the product and/or affect product performance adversely.

7.3 Specific End Use(s)

Refer to Section 1.2 – Relevant identifies uses

Section 8 – Exposure Controls/Personal Protection

8.1 Control Parameters

Exposure Limits/Guidelines

Material	Result	ACGIH	NIOSH	OSHA
Silica, amorphous (7631-86-9)	TWA	0.8 mg/m3	Not established	Not established
Epoxy Resin	TWA	10mg/m3 inhalable particles	Not established	15 mg/m3 total dust
Hardener/ Catalyst	TWA	10mg/m3 total dust	Not established	Not established
Glass – Fiber *as Glass wool fiber	TWA	1 fiber/cm3 (respirable fibers: length>5 um, aspect ration >=3:1, as determined by the membrance filter method at 400-450 X magnification (4mm objective), using phase-contrast illumination, listed under Synthetic vitreous fibers) as Glass wool fiber	3 fiber/cm3 TWA (fibers<=3.5 um in diameter and >=10um in length); 5mg/m3 TWA (total) as Glass wool fiber	Not established

*Note: When Glass- Fiber are present

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene

NIOSH = National Institute of Occupational Safety and Health

OSHA = Occupational Safety and Health Administration

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

8.2 Exposure Controls

Engineering Measures/Controls:
No special ventilation requirements. Good general ventilation should be used especially where heating or machining/grinding/sawing operations occur. Ventilation rates should matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal Protective Equipment:

Respiratory: In case of insufficient ventilation, wear suitable respiratory equipment. Use NIOSH approved respiratory protection (US requirements)

Eye/ Face: Wear safety glasses.

Skin/Body: Wear appropriate gloves. Wear long sleeves and/or protective coveralls.

Environmental Exposure Controls:
Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice to site management and disposal of waste.

Section 9 – Physical and Chemical Properties

9.1 Information on Physical and Chemical Properties

Material Description			
Physical Form	Solid	Appearance/Description	Solid opaque tacky film on woven or unidirectional fiber, interleaved with release paper and/or poly film
Color	Opaque	Odor	Neglible
Odor Threshold	Not relevant		
General Properties			
Boiling Point	Not determined	Melting Point	Above 60 C
Decomposition Temperatu	Not Determined	pH	Not determined
Specific Gravity/Relative D	1.2 to 1.8	Water Solubility	Negilible < 0.1 %
Viscosity	Tacky Solid @ room temp	Explosive Properties	Not applicable
Oxidizing Properties	Not applicable		
Volatility			
Vapor Pressure	Negelible	Vapor Density	Negiible
Evaporation Rate	Negelible		
Flammability			
Flash Point	>93C (>199.4F)	UEL	Not determined
LEL	Not relevant	Autoignition	Not determined
Flammability (solid, gas)	Not applicable		
Environmental			
Octano/Water Partition coefficient		Not determined	

9.2 Other Information

No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical Stability

Stable under normal temperatures and pressures.

10.3 Possibility of Hazardous Reactions

Rapid polymerization and exothermic reaction, may occur at temperature above 175 F (80C) with emission of toxic fumes.

10.4 Conditions to Avoid

Temperatures above 175 F (80C)

10.5 Incompatible Materials

Strong oxidizers, acids, and bases.

10.6 Hazardous Decomposition Products

Oxidizes of nitrogen, oxides of carbon, various organic compounds.

Section 11 - Toxicological Information

11.1 Information on Toxicological Effects

Components			
Material	**CAS#**	**Wt.%**	**Description**
Glass - Fiber *	65997-17-3	50-80	**Multi-dose Toxicity**: Inhalation-Rat TCLo 16mg/m3 6 Hour(s) 13 week(s)-Intermittent; Lungs Thorax, or Respiration: Other changes; **Mutagen**: Micronucleus etst Unreported Route -Hamster Lung (Somatic Cell) 2 ug/cm3; **Tumorigen/Carcinogen**: Inhalation-Rat TCLo 5mg/m3 7 Hour(s) 90 Week (s) Intermittent; Tumorigenic: Carcinogenic by RTECS criteria; Blood: **Leukemia**
Epoxy Resin Mixture	Proprietary	15-50	Oral-Rat LD50 >2000mg/kg Dermal-Rat LD 50> 2000 mg/kg Inhalation: Rat LC50 No Data available
Epoxy Resin	Proprietary		Oral-Rat LD50 >2000mg/kg Dermal-Rat LD 50> 2000 mg/kg Inhalation: Rat LC50 No Data available
Hardener/Catalyst	Proprietary		Oral-Rat LD50 >6400mg/kg Dermal-Rat LD 50> 5000 mg/kg Inhalation: Rat LC50 No Data available
Additives	Proprietary		Oral-Rat LD50 >5000mg/kg Dermal-Rat LD 50:No Data available Inhalation: >5.15mg/l

***Note:** Not normally respirable in prepreg form. Subsequent machining, drilling, grinding of cured parts requires adequate engineering controls and PPE to prevent exposure ot glas fivers and other nuisance dusts.

Key to abbreviations

LD= Lethal Dose
TC = Toxic Concetration
TD = Toxic Dose

GHS Properties	Classifications
Acute toxicity	Not classified
Aspiration Hazard	Not classified
Carcinogenicity	Not classified
Germ Cell Mutagenicity	Not classified
Skin Corrosion/Irritation	Skin Irritation 2
Skin sensitization	Skin Sensitizer 1
STOT-RE	Not classified
STOT-SE	Not classified
Toxicity for Reproduction	Not classified
Respiratory Sensitization	Not classified
Serious eye damage/Irritation	Eye Irritation 2A

Potential Health Effects

Inhalation:	
Accute (Immediate):	No adverse effects are anticipated by breathing small amounts of vapor during use.
Chronic (Delayed):	No data available
Skin:	
Accute (Immediate):	Causes skin irritation. May cause skin sensitization. Symptoms include redness, and skin rash.
Chronic (Delayed):	No data available
Eye:	
Acute (Immediate):	Causes serious eye irritation.
Chronic (Delayed):	No data available
Ingestion:	
Acute (Immediate):	Not a relevant mode of exposure
Chronic (Delayed):	No data available
Carcinogen Effects:	Due to the form of the product, exposure to the potentially carcinogenic components is inot expected.

Carcinogenic Effects		
Material	CAS	NTP
Glass-fiber* as Glass wool	65997-17-3	Reasonably Anticipated to be Human Carcinogen

*Note: Not normally repirable in prepreg form. Subsequent machining, drilling, grinding of cured parts requires adequate engineering controls and PPE to prevent exposure to glass fibers and other nuisance dusts.
When Glass- Fiber are present

Section 12 – Ecological Information

12.1 Toxicity
No Data Available
12.2 Persistance and degradability
No Data Available
12.3 Bioaccumulative potential
No Data Available
12.4 Mobility in Soil
No Data Available
12.5 Results of PBT and vPvB assessment
No PBT and vPvB assessment has been conducted
12.6 Other adverse effects
No studies have been found

Section 13 - Disposal Considerations

13.1 Waste treatment methods
Product waste: Dispose of content and/or containers in accordance with local, regional, national, and/or international regulations.
Packaging waste: Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

DOT	TDG	IMO/IMDG	IATA/ICAO
Not regulated	Not regulated	Not regulated	Not regulated

Special precautions for user
None specified.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
N/A

Sections 15 – Regulatory Information

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

None specified

SARA Hazard Classifications 311-312

Components	CAS#	Concentration %	Hazard
Epoxy Resin Mixture	Proprietary	15-40	Acute
Epoxy Resin	Proprietary	25-40	Acute/Chronic

US – CERLA/SARA Section 304 Hazardous Substances and their Reportable Quantities

Components	Concentration %	CERLA Reportable Qty.	Product Reportable Qty.
1-chloro-2, 3-epoxypropane	0.00018%	100 lbs.	10,000,000 lbs.

US – CERCLA / SARA Section 302 Extremely Hazardous Substances EPCRA RQs
Not Listed.

US – CERCLA/ SARA Section 313 Emission Reporting
Not Listed.

United States Inventory TSCA Information
All components are listed or exempt.

United States –California-Proposition 65

This product contains less than 1% of a chemical known to the state California to cause birth defects or other reproductive harm.

Component	CAS	Concentration%
1-chloro-2, 3-epoxypropane	106-89-8	Trace

This product contains less than 0.1% of a chemical known to the state of California to cause cancer.

Component	CAS	Concentration %
1-chloro-2, 3-epoxypropane	106-89-8	Trace
Benzene	71-43-2	Trace

Canada Inventory
All components are listed or exempt

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out.

Section 16 – Other Information

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