

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

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

1.1 Product name : EPDM30

Product Code(s) : EPDM30

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

: Non-Silicone Two-Part Thermal Conductive Adhesive

Use pattern: professional use. No restrictions on use known.

# 1.3 Details of the supplier of the safety data sheet: Shiu Li Technology Co.,Ltd

No.435, Yongfeng Rd., Bade City, Taoyuan County 33455, Taiwan

E-mail: service@shiuli.com.tw Website: www.shiuli.com.tw

Preparation date (dd/mm/yyyy): 26/06/2025 Reviewed Date SDS (dd/mm/yyyy):26/06/2025

Revision No. :1

Revision Information: All (format hange)

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#### SECTION 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

Black Gray / Black paste. No odor.

Most important hazards:

Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

The product is not classified as hazardous according to Regulation (EC) No. 1272/2008.

#### 2.2 Label elements

Hazard pictogram(s)

None required according to Regulation (EC) No. 1272/2008.

Signal word:

None required according to Regulation (EC) No. 1272/2008.



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Hazard statements:

None required according to Regulation (EC) No. 1272/2008.

Precautionary statements:

None required according to Regulation (EC) No. 1272/2008.

Supplemental Hazard Statements:

None required according to Regulation (EC) No. 1272/2008.

#### 2.3 Other hazards

Other hazards which do not result in classification:

Toxic fumes may be released during a fire. Prolonged exposure may cause eye irritation. Prolonged or repeated contact with skin may cause irritation in some cases. Mild respiratory irritant. Inhalation of fumes may result in metal fume fever, a flu-like illness. May cause gastrointestinal irritation.

PBT assessment:

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

#### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

Not applicable

#### 3.2 Mixtures

Chemical nature - Mixture of: Aluminum oxide compounds & Polyolefin;

The following substances shall be indicated according to legislation:

Substance name	CAS No	EC No.	Reach Registration No.	<u>% Weight</u>	Classification according to Regulation (EC) nr. 1272/2008	<u>SCL,</u> <u>M-factor,</u> <u>ATE</u>
Aluminum oxide	1344-28-1	215-691-6	Not applicable.	80.0 - 95.0	not hazardous Substances for which there are Member Country workplace exposure limits.	''
Bisphenol A- (epichlorhydrin); epoxy resin	25068-38-6	500-033-5	Not applicable.	5.0 - 20.0	Skin Irrit. 2; H315 Eye Irrit. 2; H319 (Supplier)	Not applicable

For the full text of the H phrases not mentioned in this Section or in Section 2, see Section 16.



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#### **SECTION 4. FIRST-AID MEASURES**

#### 4.1 Description of first aid measures

Ingestion : Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an

unconscious person. When symptoms persist or in all cases of doubt, seek medical

advice.

Inhalation : If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical

personnel only. If breathing has stopped, give artificial respiration. When symptoms

persist or in all cases of doubt, seek medical advice.

Skin contact: For skin contact, wash with soap and water while removing contaminated clothing.

When symptoms persist or in all cases of doubt, seek medical advice.

*Eye contact* : Rinse immediately with plenty of water, also under the eyelids. Remove contact

lenses, if present and easy to do. When symptoms persist or in all cases of doubt,

seek medical advice.

#### 4.1.2 Self-protection for the first aider

: None known or reported by the manufacturer.

#### 4.2 Most important symptoms and effects, both acute and delayed

: May be mildly irritating to skin, eyes and respiratory system. Exposure may cause temporary irritation, redness or discomfort. May cause coughing and breathing difficulties

Inhalation of fumes may result in metal fume fever, a flu-like illness. Symptoms of metal fume fever may include fever, fatigue, vomiting, muscle aches and shortness of breath.

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

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

: Provide general supportive measures and treat symptomatically.

#### SECTION 5. FIRE-FIGHTING MEASURES

# 5.1 Extinguishing media

Suitable extinguishing media

 Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

: None known.

#### 5.2 Special hazards arising from the substance or mixture

: Burning produces obnoxious and toxic fumes. The pressure in sealed containers can increase under the influence of heat. In the event of fire the following can be released: Carbon oxides; Metal oxides; Nitrogen oxides (NOx).

#### 5.3 Advice for firefighters

Protective equipment for fire-fighters

: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

#### Special fire-fighting procedures

: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.



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#### SECTION 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

Keep people away from and upwind of spill/leak. Restrict access to area until completion of clean-up. Wear appropriate protective equipment.

#### 6.2 Environmental precautions

Prevent product from entering drains, sewers, waterways and soil.

# 6.3 Methods and material for containment and cleaning up

: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Use inert, non-combustible absorbents to assist the pick up of material. Scrape up product and place it into a container for disposal. Keep in properly labelled containers. Never return spills in original containers for re-use. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities.

#### 6.4 Reference to other sections

Refer to protective measures listed in sections 7 and 8. Refer to Section 13 for disposal of contaminated material.

#### SECTION 7. HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

: Use with adequate ventilation. Wear suitable protective equipment during handling. Wear eye/face protection. Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers closed when not in use. Wash thoroughly after handling.

#### 7.2 Conditions for safe storage, including any incompatibilities

: Store in cool/well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Do not store near any incompatible materials (see Section 10).

7.3 Specific end use(s) : Cure-In-Place gasket.

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

# **8.1 Control Parameters**

Chemical Name	Exposure Limits	<u>Type</u>	<u>Notes</u>
Aluminum oxide			
	10 mg/m³ (TWA)	France (OEL)	None.
	1.25 mg/m³ (respirable dust); 10 mg/m³ (inhalable) (exposure factor 2) (TWA)	Germany (OEL)	(General dust limit)
	6 mg/m³ (respirable dust) (TWA)	Hungary (OEL)	None.
	2.5 mg/m³ (inhalable); 1.2 mg/m³ (respirable dust) (TWA)	Poland (OEL)	None.
	10 mg/m³ (TWA)	Spain (OEL)	None.
	10 mg/m³ (inhalable); 4 mg/m³ (respirable dust) (TWA)	The United Kingdom (WELs)	None.
Bisphenol A-(epichlorhydrin); epoxy resin	None known.	European Union (OEL)	None.



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## **Biological Exposure Indices:**

No biological exposure limits noted for the ingredient(s).

Derived No Effect Level (DNEL): No information available.

Predicted No Effect Concentration (PNEC): No information available.

# 8.2 Exposure controls

#### Ventilation and engineering measures

: Ensure adequate ventilation, especially in confined areas. Apply technical measures to comply with the occupational exposure limits. Good ventilation (typically 10 air changes per hour) should be sufficient to control airbourne levels. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection : In case of insufficient ventilation wear suitable respiratory equipment. The filter class

for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be

used. Seek advice from respiratory protection specialists.

**Skin protection** : Gloves impervious to the material are recommended. The suitability for a specific

workplace should be discussed with the producers of the protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it. Wear sufficient clothing to

prevent skin contact.

Eye / face protection : If product is processed in a manner that generates dusts or fumes, wear as

appropriate: Tightly fitting safety goggles; Safety glasses with side shields. See also

EN 166. .

Other protective equipment

: Ensure that eyewash stations and safety showers are close to the workstation location.

Other equipment may be required depending on workplace standards.

General hygiene considerations

: Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

#### 8.3 Environmental exposure controls

: Avoid release to the environment.

# SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

## 9.1 Information on basic physical and chemical properties

Physical state : Black Gray / Black paste

Color : Black Gray / Black

Odor : No odor.

Odor threshold : No information available.

Plash point : No information available.

Flashpoint (Method) : No information available.

No information available.

Lower flammable limit (% by vol.)

: No information available.

Upper flammable limit (% by vol.)

: No information available.



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#### Auto-ignition temperature

: No information available.

**Decomposition temperature** 

: No information available.

Oxidizing properties : None known.

Explosive properties : Not explosive
Initial boiling point and boiling range

: No information available.

Melting/Freezing point : No information available.

Relative density : 2.8
Solubility in water : Insoluble.

Other solubility(ies) : No information available.

Vapour pressure : No information available.

Vapour density : No information available.

Partition coefficient: n-octanol/water

: No information available.

Viscosity : No information available

Evaporation rate (BuAe = 1)

: No information available.

Particle characteristics : Not applicable.

9.2 Other Information

Volatiles (% by weight) : No information available.

Volatile organic Compounds (VOC's)

: 0 g/L

Other physical/chemical comments

: No additional information.

## SECTION 10. STABILITY AND REACTIVITY

**10.1 Reactivity** : Not normally reactive.

**10.2 Chemical stability** : Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous polymerization does not occur. No dangerous reaction known under

conditions of normal use.

**10.4 Conditions to avoid**: Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact

with incompatible materials.

10.5 Incompatible materials

: Strong oxidizing agents; Strong acids; Strong bases; Halocarbons

10.6 Hazardous decomposition products

: None known.

Burning produces obnoxious and toxic fumes. In the event of fire the following can be released: Carbon oxides; Metal oxides; Nitrogen oxides (NOx); Boron and compounds; formaldehyde



# SECTION 11. TOXICOLOGICAL INFORMATION

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

## 11.1 Information on Toxicological effects:

Acute toxicity : According to the classification criteria of the European Union, this product is not

considered as being an acutely toxic chemical.

Skin corrosion/Irritation : According to the classification criteria of the European Union, this product is not

considered as being a skin corrosive or irritant.

Serious eye damage/irritation

: According to the classification criteria of the European Union, the product is not

considered as being an eye irritant.

Respiratory or skin sensitisation

: Not expected to be a skin or respiratory sensitizer.

**Germ cell mutagenicity**: Contains no ingredient listed as a mutagen.

**Carcinogenicity**: Contains no ingredient listed as a carcinogen.

**Reproductive toxicity**: Contains no ingredient listed as toxic to reproduction.

STOT-single exposure : According to the classification criteria of the European Union, this product is not

expected to cause target organ toxicity through a single exposure.

STOT-repeated exposure: According to the classification criteria of the European Union, this product is not

expected to cause target organ toxicity through repeated exposures.

Aspiration hazard : According to the classification criteria of the European Union, this product is not

considered as being an aspiration hazard to humans.

Routes of exposure : Eye contact; Skin contact; Inhalation; Ingestion

Effects of acute exposure:

Inhalation: Mild respiratory irritant. May cause coughing and breathing difficulties.

Inhalation of fumes may result in metal fume fever, a flu-like illness. Symptoms of metal fume fever may include fever, fatigue, vomiting, muscle aches and shortness of

breath.

Skin contact: Prolonged skin contact may cause skin irritation. Direct skin contact may

cause temporary redness.

Eye contact: Prolonged exposure may cause eye irritation. Direct eye contact may

cause temporary redness.

Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and

diarrhea.

**Potential Chronic Health Effects** 

: None known or reported by the manufacturer.

Information on other Hazards

: None known or reported by the manufacturer.

11.1.1 Acute Toxicity

Toxicological data

There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

LC50(4hr)		LD50		
Chemical name	inh, rat	(Oral, rat)	(Rabbit, dermal)	
Aluminum oxide	>2.3 mg/L (dust) (no deaths)	> 2000 mg/kg (No mortality)	No information available.	
Bisphenol A-(epichlorhydrin); epoxy resin	No information available.	> 15 360 mg/kg	> 15 360 mg/kg	



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## SECTION 12. ECOLOGICAL INFORMATION

# 12.1 Toxicity

: Not expected to be harmful to aquatic organisms. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. Should not be released into the environment.

See the following tables for individual ingredient ecotoxicity data.

#### Ecotoxicity data:

la ann dèanta	040 11	Toxicity to Fish			
<u>Ingredients</u>	CAS No	LC50 / 96h	NOEC / 21 day	M Factor	
Aluminum oxide	1344-28-1	> 100 mg/L (Brown trout)	No information available.	None.	
Bisphenol A-(epichlorhydrin); epoxy resin	25068-38-6	No information available.	No information available.	No information available.	

<u>Ingredients</u>	CAS No	Toxicity to Daphnia			
		EC50 / 48h	NOEC / 21 day	M Factor	
Aluminum oxide	1344-28-1	> 100 mg/L (Daphnia magna)	No information available.	None.	
Bisphenol A-(epichlorhydrin); epoxy resin	25068-38-6	No information available.	No information available.	No information available.	

<u>Ingredients</u>	CAS No	То		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Aluminum oxide	1344-28-1	> 100 mg/L/72hr (Green algae)	No information available.	None.
Bisphenol A-(epichlorhydrin); epoxy resin	25068-38-6	No information available.	No information available.	No information available.

# 12.2 Persistence and degradability

: The product itself has not been tested. Contains the following chemicals which are not readily biodegradable: Aluminum oxide.

# 12.3 Bioaccumulation potential

: The product itself has not been tested.

**12.4 Mobility in soil** : The product itself has not been tested.



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#### 12.5 Results of PBT and vPvB assessment

: This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

#### 12.6 Endocrine disrupting properties

: None known or reported by the manufacturer.

#### 12.7 Other Adverse Environmental effects

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

**12.8 Additional information**: None known or reported by the manufacturer.

#### SECTION 13. DISPOSAL CONSIDERATIONS

## **13.1 Waste Treatment Methods:**

**Handling for Disposal** 

: Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. This material and its container must be disposed of in a safe way.

**Methods of Disposal** 

: Empty container or liners may retain some product residues. Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

Dispose of in accordance with the European Directives on waste and hazardous waste. Waste must be classified and labelled prior to recycling or disposal. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14. TRANSPORTATION INFORMATION						
Regulatory Information	14.1 UN Number	14.2 Old proper shipping hame		14.4 Packing Group	Label	
ADR/RID	None.	not regulated	not regulated	none	$\bigotimes$	
ADR/RID Additional information	Not classified as dangerous for conveyance in the meaning of the regulations for the transport of dangerous goods by road and rail.					
ICAO/IATA	None.	Not regulated.	not regulated	none	$\bigotimes$	



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ICAO/IATA Additional information	None.	1			
IMDG	None.	Not regulated.	not regulated	none	$\otimes$
IMDG Additional information	None.				

**14.5 Environmental hazards :** This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

#### 14.6 Special precautions for user

: Appropriate advice on safety must accompany the package.

# 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

#### SECTION 15. REGULATORY INFORMATION

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

: Classification according to Regulation (EC) No. 1272/2008 on the classification of hazardous mixtures.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended:

None of the components are specifically listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use, as amended

None of the components are specifically listed.

Directive 2012/18/EU (Seveso III) on the control of major-accident hazards involving dangerous substances:

None of the components are specifically listed.

Directive 98/24/EC on the protection of the health and safety of workers from risks related to chemical agents at work:

Directive 94/33/EC on the protection of young people at work:

None of the components are specifically listed.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended [including Regulation (EU) 2015/830].

Follow national regulation for work with chemical agents.

German legislation on water endangering substances VwVwS: Water contaminating class (Germany) - 1 (self classified)

#### 15.2 Chemical safety assessment

: A chemical safety assessment has not been carried out by the Manufacturer of this product.



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#### SECTION 16. OTHER INFORMATION

Legend

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ADR: European Agreement concerning the International Carriage of Dangerous Goods

by Road

**CAS: Chemical Abstract Services** 

CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of

substances and mixtures EC: European Community

EC50: Effective Concentration 50% ECHA: European Chemicals Agency EEC: European Economic Community

EN: European Standard EU: European Union

HSDB: Hazardous Substances Data Bank IATA: International Air Transport Association

IBC: Intermediate Bulk Container

IMDG: International Maritime Dangerous Goods

LC: Lethal Concentration

LD: Lethal Dose

NOEC: No observable effect concentration

OECD: Organisation for Economic Co-operation and Development

OEL: National occupational exposure limits

PEL: Permissible exposure limit

RID: Regulations concerning the International Carriage of Dangerous Goods by Rail

RTECS: Registry of Toxic Effects of Chemical Substances

SDS: Safety Data Sheet

STEL: Short Term Exposure Limit TWA: Time Weighted Average WEL: Workplace Exposure Limit

**Information Source** 

1. Material Safety Data Sheet from manufacturer.

2. Canadian Centre for Occupational Health and Safety, CCInfoWeb Databases, 2019

(Chempendium, RTECs, HSDB, INCHEM).

3. European Chemicals Agency, Classification Legislation, 2019.

4. OECD - The Global Portal to Information on Chemical Substances - eChemPortal,

2019.

Preparation Date (dd/mm/yyyy)

: 26/06/2025

Reviewed Date SDS (dd/mm/yyyy)

: 26/06/2025

Revision No. : 1

: All (format change)

Regulation and Procedure :

H-phrases (full-text)

**Revision Information** 

H315 - Causes skiń irritation.

H319 - Causes serious eye irritation.

Other special considerations for handling

: Provide adequate information, instruction and training for operators.



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