

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Product Name : **ESTOPLATE ADHESIVE**  
 Application : Carbon Fiber Laminate  
 Company : **PT. HISSAN TRADING INDONESIA**  
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 Indonesia  
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## 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture  
 The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

### Health hazards

Skin corrosion/irritation	Category 2	H315 - Causes skin irritation.
Serious eye damage/eye irritation	Category 2	H319 - Causes serious eye irritation.
Skin sensitisation	Category 1	H317 - May cause an allergic skin reaction

### Environmental hazards

Hazardous to the aquatic environment,	Category 2	H411 - Toxic to aquatic life with long lasting effects.
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long-term aquatic hazard

### Hazard summary

Causes serious eye irritation. Causes skin irritation. May cause an allergic skin reaction. Dangerous for the environment if discharged into watercourses.

### Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol, Reaction product: bisphenol-A-(epichlorohydrin)

### Hazard pictograms



### Signal word

Warning

### Hazard statements

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H411	Toxic to aquatic life with long lasting effects.

### Precautionary statements

#### Prevention

P261	Avoid breathing mist or vapour.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Response  
 P302 + P352 IF ON SKIN: Wash with plenty of water.  
 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.

Storage Store away from incompatible materials.

Disposal  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental label information EUH205 - Contains epoxy constituents. May produce an allergic reaction.

Other hazards Not a PBT or vPvB substance or mixture.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients	CAS No.	Content, %
Reaction product: Bisphenol-A-(epichlorohydrin)	25068-38-6-500-033-5	50 - 100
Formaldehyde, oligomeric reaction product with 1-chloro-2,3-epoxypropane and phenol	9003-36-5-500-006-8	10 - 25

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume

### 4. FIRST AID MEASURES

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

Description of first aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms and effects, both acute and delayed Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

Indication of any immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

## 5. FIRE FIGHTING MEASURES

General fire hazards	No unusual fire or explosion hazards noted.
Extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).
Suitable extinguishing media	
Unsuitable extinguishing Media	Do not use water jet as an extinguisher, as this will spread the fire.
Special hazards arising substance or mixture	During fire, gases hazardous to health may be formed. from the
Advice for firefighters	
Special protective	Self-contained breathing apparatus and full protective clothing must be worn in case of fire. equipment for firefighters
Special fire fighting	Move containers from fire area if you can do so without risk. procedures
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

## 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	
For non-emergency personnel	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapour. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.
For emergency responders	Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.
Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.
Method and material for containment and cleaning up	The product is immiscible with water and will sediment in water systems. Prevent product from entering drains.  Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.  Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.  Never return spills to original containers for re-use.
Reference to other	For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS. sections

## 7. HANDLING AND STORAGE

Precautions for safe	Avoid breathing mist or vapour. Avoid contact with eyes, skin, and clothing. Persons susceptible for allergic reactions should not handle this product. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store away from incompatible materials (see section 10 of the SDS). Store in a dry place. Avoid freezing temperatures.
Specific end use(s)	Impregnated epoxy.

## 8. EXPOSURE CONTROL / PERSONAL PROTECTION

Control parameters	
Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Recommended monitoring procedures	Follow standard monitoring procedures.
Derived no effect levels (DNELs)	

### General Population

Components	Value	Assessment factor	Notes
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol (CAS 9003-36-5)			
Long-term, Systemic, Dermal	62,5 mg/kg	40	
Long-term, Systemic, Inhalation	8,7 mg/m <sup>3</sup>	25	
Long-term, Systemic, Oral	6,25 mg/kg	40	
Reaction product: bisphenol-A-(epichlorohydrin) (CAS 25068-38-6)			
Long-term, Systemic, Dermal	3,571 mg/kg	20	
Long-term, Systemic, Oral	0,75 mg/kg	20	
Short-term, Systemic, Dermal	3,571 mg/kg	20	
Short-term, Systemic, Oral	0,75 mg/kg	20	

**Workers**

Components	Value	Assessment factor	Notes
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol (CAS 9003-36-5)			
Long-term, Systemic, Dermal	104,15 mg/kg	24	
Long-term, Systemic, Inhalation	29,39 mg/m <sup>3</sup>	15	
Reaction product: bisphenol-A-(epichlorohydrin) (CAS 25068-38-6)			
Long-term, Systemic, Dermal	8,33 mg/kg	12	
Long-term, Systemic, Inhalation	12,25 mg/m <sup>3</sup>	12	
Short-term, Systemic, Dermal	8,33 mg/kg	12	
Short-term, Systemic, Inhalation	12,25 mg/m <sup>3</sup>	12	

**Predicted no effect concentrations (PNECs)**

Components	Value	Assessment factor	Notes
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol (CAS 9003-36-5)			
Freshwater	0,003 mg/l	100	
Intermittent releases	0,0254 mg/l	100	
Marine water	0,0003 mg/l	1000	
Sediment (freshwater)	0,294 mg/kg		
Sediment (marine water)	0,0294 mg/kg		
Soil	0,237 mg/kg		
STP	10 mg/l	10	
Reaction product: bisphenol-A-(epichlorohydrin) (CAS 25068-38-6)			
Freshwater	0,006 mg/l	50	
Intermittent releases	0,018 mg/l	100	
Marine water	0,0006 mg/l	500	
Secondary Poisoning	11 mg/kg	90	
Sediment (freshwater)	0,996 mg/kg		
Sediment (marine water)	0,0996 mg/kg		
Soil	0,196 mg/kg		
STP	10 mg/l	10	

**Exposure controls**

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be 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. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

General information

Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection

Use tight fitting goggles if dust is generated by machining operation.

Skin protection

- Hand protection

Wear suitable protective gloves to prevent cuts and abrasions. Wear suitable gloves tested to EN374. Butyl rubber gloves are recommended. Breakthrough time: > 2 hours. Suitable gloves can be recommended by the glove supplier.

- Other

Protective clothing is not required under normal conditions. If material is heated, wear gloves to protect against thermal burns.

Respiratory protection

Not necessary under normal conditions. In case of inadequate ventilation or risk of inhalation of dust, use suitable respiratory equipment with particle filter (type P1).

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

Hygiene measures

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Environmental exposure

Environmental manager must be informed of all major releases. Controls.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	Liquid
Form	Viscous
Colour	Brown.
Odour	Not relevant.
Odour threshold	Not available
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	> 150,0 °C (> 302,0 °F).
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available
Flammability limit - upper (%)	Not available.
Vapour pressure	Not available
Vapour density	Not available.
Relative density	1,17
Solubility(ies)	Insoluble in water.
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	20000 mPa·s (20°C)
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.
Other information	No relevant additional information available
VOC	<3%.

## 10. STABILITY AND REACTIVITY

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous	No dangerous reaction known under conditions of normal use. Reactions
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidising agents. Sodium hydroxide.
Hazardous decomposition products	No hazardous decomposition products are known. At thermal decomposition temperatures, carbon monoxide and carbon dioxide.

## 11. TOXICOLOGICAL INFORMATION

General information	Occupational exposure to the substance or mixture may cause adverse effects.
Information on likely routes of exposure	
Inhalation	No adverse effects due to inhalation are expected.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Ingestion	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

Symptoms Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

Components	Species	Test results
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol (CAS 9003-36-5)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rat	> 2000 mg/kg

Components	Species	Test results
Reaction product: bisphenol-A-(epichlorohydrin) (CAS 25068-38-6)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rat	> 2000 mg/kg
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory sensitisation	Based on available data, the classification criteria are not met.
Skin sensitisation	May cause an allergic skin reaction.
Germ cell mutagenicity	Based on available data, the classification criteria are not met.
Carcinogenicity	Based on available data, the classification criteria are not met.
Reproductive toxicity	Based on available data, the classification criteria are not met.
Specific target organ toxicity - single exposure	Based on available data, the classification criteria are not met.
Specific target organ toxicity - repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Based on available data, the classification criteria are not met.
Mixture versus substance	No information available. information
Other information	No data available

## 12. ECOLOGICAL INFORMATION

Toxicity Toxic to aquatic life with long lasting effects.

Components	Species	Test results
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol (CAS 9003-36-5)		
<b>Aquatic</b>		
<i>Acute</i>		
Algae	EC50 Selenastrum capricornutum (Pseudokirchnerella subcapitata)	> 1,8 mg/l, 72 hours
Reaction product: bisphenol-A-(epichlorohydrin) (CAS 25068-38-6)		
Fish	LC50 Salmo gairdneri	1,5 mg/l, 96 hours
<b>Aquatic</b>		
Crustacea	EC50 Daphnia magna	2,7 mg/l, 48 hours

Persistence and Degradability	No data is available on the degradability of this product.
Bioaccumulative potential	No data available.
Partition coefficient n-octanol/water (log Kow)	No data available.
Bioconcentration factor (BCF)	Not available.

Mobility in soil	No data available.
Results of PBT and vPvB assessment	Not a PBT or vPvB substance or mixture.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### 13. DISPOSAL CONSIDERATIONS

Residual waste	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
EU waste code	08 04 09*. The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Disposal methods/information	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Special precautions	Dispose in accordance with all applicable regulations

### 14. TRANSPORT INFORMATION

ADR	
UN number	UN3082
UN proper shipping Name	Environmentally hazardous substance, liquid, n.o.s. (Reaction product: bisphenol-A-(epichlorohydrin))
Transport hazard class(es)	
Class	9
Subsidiary risk	-
Label(s)	9
Hazard No. (ADR)	90
Tunnel restriction code	E
Packing group	III
Environmental hazards	Yes.
Special precautions	Read safety instructions, SDS and emergency procedures before handling. for user
RID	
UN number	UN3082
UN proper shipping Name	Environmentally hazardous substance, liquid, n.o.s. (Reaction product: bisphenol-A-(epichlorohydrin))
Class	9
Transport hazard class(es)	
Subsidiary risk	-
Label(s)	9
Packing group	III
Environmental hazards	Yes.
Special precautions	Read safety instructions, SDS and emergency procedures before handling.



	for user
ADN	
UN number	UN3082
UN proper shipping Name	Environmentally hazardous substance, liquid, n.o.s. (Reaction product: bisphenol-A-(epichlorohydrin))
Class	9
Transport hazard class(es)	
Subsidiary risk	-
Label(s)	9
Packing group	III
Environmental hazards	Yes.
Special precautions	Read safety instructions, SDS and emergency procedures before handling. for user
IATA	
UN number	UN3082
UN proper shipping Name	Environmentally hazardous substance, liquid, n.o.s. (Reaction product: bisphenol-A-(epichlorohydrin))
Class	9
Transport hazard class(es)	
Subsidiary risk	-
Label(s)	9
Packing group	III
Environmental hazards	Yes.
ERG Code 9L	
Special precautions	Read safety instructions, SDS and emergency procedures before handling. for user
IMDG	
UN number	UN3082
UN proper shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Reaction product: bisphenol-A-(epichlorohydrin))

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## 15. REGULATORY INFORMATION

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### EU regulations

- Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended  
Not listed.
- Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended  
Not listed.
- Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1 as amended  
Not listed.
- Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2 as amended  
Not listed.
- Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3 as amended  
Not listed.
- Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V as amended  
Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended  
Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA  
Not listed.

#### Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended  
Not listed.

#### Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended  
Not listed.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended  
Not listed.

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding, as amended  
Not listed.

#### Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances  
Not listed.

Directive 94/33/EC on the protection of young people at work  
Not listed.

Other regulations: The product is an article and therefore the classification requirements according to Regulation (EC) 1272/2008 as amended do not apply.

National regulations: Follow national regulation for work with chemical agents.

Chemical safety: No Chemical Safety Assessment has been carried out. assessment

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## 16. OTHER INFORMATION

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This information is based on our present state of knowledge. It should not therefore be constructed as guaranteeing specific properties of this product or their suitability for a particular application.

Also refer to the Safety Data Sheet (s) for information on other components of this product.

The data and advice given apply when the product is used for the stated application or applications. The product is not sold as suitable for any other application. Use of the product for applications other than as stated in this sheet may give rise to risks not mentioned in this sheet. The product should not be used than for the stated application or applications without seeking advice from PT. Hissan Trading Indonesia

If this product has been purchased to a third party for use at work, it is the purchaser's duty to take all necessary steps to secure that any person handling or using the product is provided with information in this sheet.

It is the responsibility and duty of the employer to inform employees and others who may be affected of any hazards described to this sheet and of any precautions which should be taken. This sheet does not constitute or substitute for the users own assessment of workplace risk, as required by other health and safety legislation. Further copies of this Safety Data Sheet may be obtained from PT. Hissan Trading Indonesia.

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