



## Safety Data Sheet according to (EC) No 1907/2006

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SDS No. : 1048226  
V001.0

HYSOL GR 2330

Revision: 21.03.2018  
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### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

HYSOL GR 2330

#### Contains:

Phenol-formaldehyde polymer  
Bisphenol-F epichlorhydrin resin; MW<700  
C.I. pigment orange 016

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

Intended use:  
Molding Compound

#### 1.3. Details of the supplier of the safety data sheet

Manufacturer  
Hysol Huawei Electronic Co., Ltd.  
Songtiao Industrial Zone, Lianyungang, Jiangsu, China,  
222000  
T: +86 518-85155187  
F: +86 518-85155060

#### 1.4. Emergency telephone number

24 Hours Emergency Tel: +86 18115208319

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification (CLP):

Skin sensitizer  
H317 May cause an allergic skin reaction.  
Carcinogenicity  
H350 May cause cancer.

Category 1

Category 1B

#### 2.2. Label elements

##### Label elements (CLP):

Hazard pictogram:



<b>Signal word:</b>	Danger
<b>Hazard statement:</b>	H317 May cause an allergic skin reaction. H350 May cause cancer.
<b>Supplemental information</b>	Restricted to professional users.
<b>Precautionary statement: Prevention</b>	P201 Obtain special instructions before use. P280 Wear protective gloves/protective clothing.
<b>Precautionary statement: Response</b>	P308+P313 IF exposed or concerned: Get medical advice/attention. P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

### 2.3. Other hazards

None if used properly.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

#### General chemical description:

Epoxy resin

#### Base substances of preparation:

resins  
organic amine  
Filler

#### Declaration of the ingredients according to CLP (EC) No 1272/2008:

Hazardous components CAS-No.	EC Number	content	Classification
Silica, vitreous 60676-86-0	262-373-8	60- < 80 %	Not classified
Formaldehyde, polymer with (chloromethyl)oxirane and 2-methylphenol 29690-82-2	-	10- < 20 %	Not classified
Phenol-formaldehyde polymer 9003-35-4	500-005-2	5- < 10 %	Eye Irrit. 2 H319 STOT SE 3 H335 Skin Sens. 1 H317
Ti-oxide 13463-67-7		1- < 5 %	Not classified
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	500-006-8	0,1- < 1 %	Skin Irrit. 2; Dermal H315 Skin Sens. 1; Dermal H317 Aquatic Chronic 2 H411
C.I. pigment orange 016 6505-28-8	229-388-1	0,1- < 1 %	Carc. 1B H350
1,8-Diazabicyclo[5.4.0]undec-7-ene 6674-22-2	229-713-7	0,1- < 0,25 %	Acute Tox. 3; Oral H301 Skin Corr. 1B H314

For full text of the H - statements and other abbreviations see section 16 "Other information".  
Substances without classification may have community workplace exposure limits available.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

Inhalation:

Move to fresh air, consult doctor if complaint persists.

**Skin contact:**

Rinse with running water and soap.

In case of adverse health effects seek medical advice.

**Eye contact:**

Immediately flush eyes with soft jet of water or eye rinse solution for at least 5 minutes. If pains remains (intensive smarting, sensitivity to light, visual disturbance) continue flushing and contact/seek doctor or hospital.

**Ingestion:**

Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

**4.2. Most important symptoms and effects, both acute and delayed**

SKIN: Rash, Urticaria.

Prolonged or repeated contact may cause eye irritation.

Prolonged or repeated contact may cause skin irritation.

**4.3. Indication of any immediate medical attention and special treatment needed**

See section: Description of first aid measures

## SECTION 5: Firefighting measures

**5.1. Extinguishing media**

**Suitable extinguishing media:**

All common extinguishing agents are suitable.

**5.2. Special hazards arising from the substance or mixture**

Danger of decomposition if exposed to heat.

In the event of a fire, carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) can be released.

**5.3. Advice for firefighters**

Do not breathe combustion gases.

Wear self-contained breathing apparatus.

**Additional information:**

In case of fire, keep containers cool with water spray.

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

Avoid dust formation.

Depending on workplace dust concentration, wear dust filter mask with particle filter P1, P2 or P3.

Wear protective equipment.

Ensure adequate ventilation.

**6.2. Environmental precautions**

Do not allow to enter the ground / soil.

**6.3. Methods and material for containment and cleaning up**

Remove all sources of ignition.

Remove mechanically.

Use appropriate industrial vacuum cleaners or central vacuum systems for dust removal.

Dispose of contaminated material as waste according to Section 13.

**6.4. Reference to other sections**

See advice in section 8

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**

See advice in section 8

Avoid naked flames, sparking and sources of ignition.

Avoid skin and eye contact.

Avoid dust development and deposition - dust explosion risk. Take precautionary measures against static discharges.

Hygiene measures:

Wash hands before work breaks and after finishing work.

Do not eat, drink or smoke while working.

Good industrial hygiene practices should be observed.

**7.2. Conditions for safe storage, including any incompatibilities**

Store in sealed original container.

Store in a cool, dry place.

Keep away from heat and direct sunlight.

**7.3. Specific end use(s)**

Molding Compound

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Occupational Exposure Limits**

Titanium dioxide 13463-67-7	Limit value - Eight hours		Limit value - Short term	
	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Belgium		10		
Denmark		6 total dust		12 total dust
France		11 inhalable aerosol		
Ireland		10 Inhalable fraction		
		4 Respirable fraction		
Latvia		10		
Poland		10		30
Singapore		10		
Spain		10 inhalable aerosol		
Sweden		5 inhalable aerosol		
		3 respirable aerosol		
Switzerland				
USA - OSHA		15 total dust		
United Kingdom		10 inhalable aerosol		
		4 respirable aerosol		

Silica, vitreous 60676-86-0	Limit value - Eight hours		Limit value - Short term	
	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Austria		0,3		
Belgium		0,1		
Denmark		0,1		0,2
Germany (AGS)		0,3 respirable aerosol		
Germany (DFG)		0,3 respirable aerosol		
Ireland		0,08		
Switzerland		0,3 respirable aerosol		
USA - NIOSH		0,05		
United Kingdom		0,08		

**Predicted No-Effect Concentration (PNEC):**

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 9003-36-5	aqua (freshwater)					0,003 mg/L	
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 9003-36-5	aqua (marine water)					0,0003 mg/L	
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 9003-36-5	sewage treatment plant (STP)					10 mg/L	
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 9003-36-5	sediment (freshwater)				0,294 mg/kg		
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 9003-36-5	sediment (marine water)				0,0294 mg/kg		
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 9003-36-5	soil				0,237 mg/kg		
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 9003-36-5	aqua (intermittent releases)					0,0254 mg/L	

**Derived No-Effect Level (DNEL):**

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 9003-36-5	Workers	dermal	Acute/short term exposure - local effects		0,0083 mg/cm2	
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 9003-36-5	Workers	dermal	Long term exposure - systemic effects		104,15 mg/kg bw/day	
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 9003-36-5	Workers	Inhalation	Long term exposure - systemic effects		29,39 mg/m3	
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 9003-36-5	general population	dermal	Long term exposure - systemic effects		62,5 mg/kg bw/day	
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 9003-36-5	general population	Inhalation	Long term exposure - systemic effects		8,7 mg/m3	
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 9003-36-5	general population	oral	Long term exposure - systemic effects		6,25 mg/kg bw/day	

**Biological Exposure Indices:**

None

**8.2. Exposure controls:**

Engineering controls:

In use may form flammable/explosive dust-air mixtures.

Thorough dedusting.

Avoid naked flames, sparking and sources of ignition.

Ensure good ventilation/suction at the workplace.

Respiratory protection:

Do not inhale dust.

In case of insufficient ventilation, wear suitable respiratory equipment.

Depending on workplace dust concentration, wear dust filter mask with particle filter P1, P2 or P3.

Ensure adequate ventilation.

Hand protection:

Chemical-resistant protective gloves (EN 374).

Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to &gt; 30 minutes permeation time as per EN 374):

nitrile rubber (NBR;  $\geq 0.4$  mm thickness)

Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to &gt; 480 minutes permeation time as per EN 374):

nitrile rubber (NBR;  $\geq 0.4$  mm thickness)

This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

Eye protection:

Avoid eye contact.

Protective goggles

and/or

facial protection

Protective eye equipment should conform to EN166.

Skin protection:

Wear suitable protective clothing.

Protective clothing that covers arms and legs.

Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

Advices to personal protection equipment:

The information provided on personal protective equipment is for guidance purposes only. A full risk assessment should be conducted prior to using this product to determine the appropriate personal protective equipment to suit local conditions.

Personal protective equipment should conform to the relevant EN standard.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Appearance	solid material powder, tablet orange
Odor	little intrinsic odour
Odour threshold	No data available / Not applicable
pH	Not applicable
Initial boiling point	Polymerization may occur at elevated temperature.
Flash point	Product is a solid.
Decomposition temperature	No data available / Not applicable
Vapour pressure	No data available / Not applicable

Density (20 °C (68 °F))	1,83 g/cm <sup>3</sup>
Bulk density	No data available / Not applicable
Viscosity	No data available / Not applicable
Viscosity (kinematic)	No data available / Not applicable
Explosive properties	No data available / Not applicable
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Insoluble
Solubility (qualitative) (20 °C (68 °F); Solvent: ketones)	Partially miscible
Solidification temperature	No data available / Not applicable
Melting point	No data available / Not applicable
Flammability	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Explosive limits	No data available / Not applicable
Partition coefficient: n-octanol/water	No data available / Not applicable
Evaporation rate	No data available / Not applicable
Vapor density	No data available / Not applicable
Oxidising properties	No data available / Not applicable

## 9.2. Other information

No data available / Not applicable

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reacts with strong oxidants.

Polymerization may occur at elevated temperature or in the presence of incompatible materials.

### 10.2. Chemical stability

Stable under recommended storage conditions.

### 10.3. Possibility of hazardous reactions

See section reactivity

### 10.4. Conditions to avoid

Danger of dust explosions.

Take measures to prevent the build-up of electrostatic charges.

Danger of decomposition if exposed to heat.

See "Handling and Storage" (Section 7) and "Incompatibility" (Section 10).

### 10.5. Incompatible materials

See section reactivity

### 10.6. Hazardous decomposition products

Hydrocarbons

Irritating vapors.

May produce fumes when heated to decomposition. Fumes may contain carbon monoxide and other toxic fumes.

See section 5.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### General toxicological information:

The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation (EC) No 1272/2008. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

#### Skin irritation:

Prolonged or repeated contact may cause skin irritation.

#### Eye irritation:

Prolonged or repeated contact may cause eye irritation.



**Sensitizing:**

May cause an allergic skin reaction.

**Carcinogenicity:**

May cause cancer

**Acute oral toxicity:**

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Phenol-formaldehyde polymer 9003-35-4	LD50	4.100 mg/kg	oral		rat	
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	LD50	> 2.000 mg/kg	oral		rat	

**Acute inhalative toxicity:**

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
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**Acute dermal toxicity:**

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	LD50	> 2.000 mg/kg	dermal		rabbit	Not specified

**SECTION 12: Ecological information****General ecological information:**

The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation (EC) No 1272/2008. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

**12.1. Toxicity****Ecotoxicity:**

Do not empty into drains / surface water / ground water.

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	EC50	1,6 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	EC50	1,8 mg/l	Algae	72 h		OECD Guideline 201 (Alga, Growth Inhibition Test)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	NOEC	0,3 mg/l	chronic Daphnia	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
1,8-Diazabicyclo[5.4.0]undec- 7-ene 6674-22-2	LC50	> 100 - 220 mg/l	Fish	96 h	Leuciscus idus	DIN 38412-15
1,8-Diazabicyclo[5.4.0]undec- 7-ene 6674-22-2	EC50	50 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
1,8-Diazabicyclo[5.4.0]undec- 7-ene 6674-22-2	EC50	> 100 mg/l	Algae	72 h	Desmodesmus subspicatus (reported as Scenedesmus subspicatus)	EU Method C.3 (Algal Inhibition test)
	NOEC	> 100 mg/l	Algae	72 h	Desmodesmus subspicatus (reported as Scenedesmus subspicatus)	EU Method C.3 (Algal Inhibition test)
1,8-Diazabicyclo[5.4.0]undec- 7-ene 6674-22-2	EC 50	330 mg/l	Bacteria	17 h		
1,8-Diazabicyclo[5.4.0]undec- 7-ene 6674-22-2	NOEC	> 12 mg/l	chronic Daphnia	21 day	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)

## 12.2. Persistence and degradability

### Persistence and Biodegradability:

The product is not biodegradable.

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5		aerobic	5 %	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
1,8-Diazabicyclo[5.4.0]undec- 7-ene 6674-22-2	not inherently biodegradable	aerobic	< 20 %	OECD Guideline 302 B (Inherent biodegradability: Zahn- Wellens/EMPA Test)
	Not readily biodegradable.	aerobic	< 20 %	OECD Guideline 301 A (new version) (Ready Biodegradability: DOC Die Away Test)

## 12.3. Bioaccumulative potential / 12.4. Mobility in soil

### Mobility:

Cured adhesives are immobile.

### Bioaccumulative potential:

No data available.

Hazardous components CAS-No.	LogKow	Bioconcentration factor (BCF)	Exposure time	Species	Temperature	Method
1,8-Diazabicyclo[5.4.0]undec- 7-ene 6674-22-2		< 0,4	42 day	Cyprinus carpio		OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish)

## 12.5. Results of PBT and vPvB assessment

Hazardous components CAS-No.	PBT/vPvB
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Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
1,8-Diazabicyclo[5.4.0]undec-7-ene 6674-22-2	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

**12.6. Other adverse effects**

No data available.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods**

Product disposal:

Dispose of in accordance with local and national regulations.

Disposal of uncleaned packages:

Use packages for recycling only when totally empty.

Packaging that cannot be cleaned are to be disposed of in the same manner as the product.

Waste code

08 04 09 waste adhesives and sealants containing organic solvents and other dangerous substances

The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.

**SECTION 14: Transport information****14.1. UN number**

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

**14.2. UN proper shipping name**

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

**14.3. Transport hazard class(es)**

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

**14.4. Packing group**

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

**14.5. Environmental hazards**

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

**14.6. Special precautions for user**

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

**14.7. Transport in bulk according to Annex II of Marpol and the IBC Code**

not applicable

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

VOC content < 3 %  
(2010/75/EC)

#### 15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

### SECTION 16: Other information

The labelling of the product is indicated in Section 2. The full text of all abbreviations indicated by codes in this safety data sheet are as follows:

- H301 Toxic if swallowed.
- H314 Causes severe skin burns and eye damage.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.
- H350 May cause cancer.
- H411 Toxic to aquatic life with long lasting effects.

#### Further information:

This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

**Relevant changes in this safety data sheet are indicated by vertical lines at the left margin in the body of this document. Corresponding text is displayed in a different color on shadowed fields.**