

# Material Safety Data Sheet(MSDS)

## 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Glass  
Other Name: -  
Recommended use : -  
Manufacturer or supplier: Ningbo Kangli Glass Co.,Ltd  
No.66 Yufanxi Road, Zhenhai District,Ningbo, China  
Emergency phone/fax : +86-574-86366117

## 2. HAZARDS IDENTIFICATION

**Hazard category:** hazard categories

**Invasion way:** Direct contact with the skin, and inhalation

**Health hazard:** The broken glass fragment is sharp, to scratch or cut a person's skin; Glass dust floating in the air inhaled through respiratory tract.

**Environment hazard:** Insignificance Explosive danger: Insignificance

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Major component:**

SiO<sub>2</sub>: 70~74%

Al<sub>2</sub>O<sub>3</sub>: 0.5~1.5%

Fe<sub>2</sub>O<sub>3</sub>: ~0.1%

CaO: 8~10%

MgO: 2~4%

Na<sub>2</sub>O+K<sub>2</sub>O: ≤14.5%

**CAS No.:** non-available

## 4. FIRST AID MEASURES

**Skin:** People should immediately flush skin with water and bind up. Must be sent to hospital to check if a person is scratched or cut badly.

**Eyes:** Open eyelids, irrigate with flowing water or normal saline, go to a doctor.

**Inhalation:** Insignificance

**Ingestion:** Insignificance

## 5. FIRE FIGHTING MEASURES

**Hazard property:** No special burning explosion properties.

Meet does not react with acid (except for HF, the reaction of glass with HF can generate SiF<sub>4</sub> and cause corrosion on glass); Encounter alkali will cause corrosion (KOH and NaOH, etc.)

**Dangerous:** Insignificance

**Hazardous Combustion Products:** Insignificance

**Fire fighting methods:** Insignificance

**Fire extinguishing measures and precautions:** Insignificance

## 6. ACCIDENTAL RELEASE MEASURES

Accidental release measures: Insignificance

## 7. HANDLING AND STORAGE

**Operation cautions:** Suggest wearing a helmet, canvas protective sleeve, rubber or canvas gloves, safety glasses, safety shoes, etc. Be careful of the glass corner( glass is easy broken when glass corners impacted

**Attentions for Storage:** Glass should be stored in a dry and ventilated warehouse. The warehouse humidity generally not more than 60%. Storage areas should be ventilated, fire control devices, etc. To avoid scratches, generally use paper or cork pad between glass and glass.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Respiratory protection :**Wear a mask

**Eyes protection:** Wear protective glasses

**Body protection:** wear safety shoes

**Hands protection:** wear canvas protective sleeve, rubber or canvas gloves,

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Colorless transparent amorphous, more brittle. After toughened glass, the surface stress concentration, leading to its strength will increase than before toughened 5 ~ 6 times.

**PH value:** Insignificance

**Softening temperature:** about 720℃ Boiling temperature: Insignificance

**Density:** 2.5kg/m<sup>3</sup>

**Solubility:** insoluble in water

## 10. STABILITY AND REACTIVITY

**Stability:** stable

**Prohibited content:** hydrofluoric acid (HF), alkali (KOH、NaOH)

**Avoid contact with conditions:** 50℃ high temperature and high humidity airtight environment ( humidity of 85% or more) will cause the glass mould (weathering)

**Aggregate harm:** cannot occur

**Breakdown products:** no decomposition

## 11. TOXICOLOGICAL INFORMATION

Acute toxicity: LD50: no data available LC50: no data available Stimulus: nonsense

## 12. ECOLOGICAL INFORMATION

Environmental data: no data available

## 13. DISPOSAL CONSIDERATIONS

Glass and glass dust can be recycled into some new glass products and should be recycled wherever appropriate and possible.

Glass and glass dust is not considered a hazardous waste under USEPA RCAR, or European Hazardous Waste directive definitions

## 14. TRANSPORT INFORMATION

**Dangerous gauge number:** no data available

**The United Nations number:** no data available

**Packaging categories:** no data available

**Packing method:** Use paper or cork pad between glass, outside with PE film, then use wooden cases with steel belt tied up.

**Transportation note:** Glass in the process of transportation, transportation vehicles shall not stop in a hurry, must be in the process of turning slowly, to avoid broken glass. The contact between glass and other materials must have corresponding buffer material.

## 15. REGULATORY INFORMATION

Regulatory information : no data available

## 16. OTHER INFORMATION

None

# Material Safety Data Sheet(MSDS)

## 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: High Density Polyethylene (HDPE)  
Other Name: -  
Recommended use : HDPE can be use of the film、 injection and extrusion .  
Manufacturer or supplier: Huajin Chemical (Group) Co., Ltd.  
Hongqi Street, Shuangtaizi District, Panjin city, Liaoning, China.  
Emergency phone/fax : +86-0427-5855223

## 2. HAZARDS IDENTIFICATION

Product hazard class None  
Label content None  
Other hazards: None

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Pure material:

Chinese and English name: 高密度聚乙烯(High Density Polyethylene)
Synonyms: HDPE
Chemical Abstracts Service No.(CAS No.): 9002-88-4
The hazardous ingredients(% of the content): Nil

### Mixtures:

Chemical properties: Solid state	
Chinese and English names of the hazardous ingredients	Concentration or concentration ranges (ingredient percentage)
None ---	

## 4. FIRST AID MEASURES

The first aid measures for different exposure routes: Inhalation: Dust may cause slight irritation, no significant health effects. Skin contact: Rapidly wash off with cool water or shower, if molten material comes in contact with the skin. Do not attempt to remove the material from skin. Eye contact: Dust may cause slight irritation. Fume may cause eye irritation as mid discomfort. Ingestion: None
The most important symptoms and hazardous effects: None
The protection of first-aiders: None

Notes to physicians: None

## 5. FIRE FIGHTING MEASURES

Suitable fire extinguishing media: water, water fog, foam, CO<sub>2</sub>, dry chemical extinguishers.

Specific hazards may be encountered during fire-fighting: Carbon Monoxide (CO) and irritating smoke may be emitted when burned without sufficient oxygen.

Specific fire-fighting methods: Use water spray to cool fire exposed surface and to protect personnel. Shut off "fuel" to fire.

Special equipment for the protection of fire-fighters: Wear positive pressure, self-contained breathing apparatus in any closed space.

## 6. ACCIDENTAL RELEASE MEASURES

Personal precaution: None

Environmental precaution: None

Method for cleaning up: Clean up with a shovel and/or vacuum cleaner.

## 7. HANDLING AND STORAGE

Handling: Good general ventilation should be sufficient for most conditions. During the processing of the material, avoid inhalation of fumes and scald of molten material.

Storage: Store in a cool, dry place with good ventilation. Away from source of heat and direct sunlight. Storage silo must be grounded to prevent static charge. Proper ventilation is recommended to control dust formation.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Control:---

Control parameters: 8 hours time average exposure limits/Short-term exposure limits/maximum exposure limits:---biological standard:---

Personal protective equipment:

Respiratory protection: Use dust-proof mask.

Hand protection: Use rubber gloves. Use thermal resistant gloves, when needed. Eye Protection: Use safety goggles, when dust is present.

Skin & body protection: No precautions other than clean body-covering clothing should be needed.

Hygiene Procedures: ---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical static, color, etc): Translucent white solid pellets	Odor: negligible
Odor threshold: ---	Melting Point / Melting Range: 100~111°C
pH Value: Not applicable	Boiling point/boiling point range: Not applicable
Flammability (solid, gas): Not applicable	Flash Point: ca.340°C
Decomposition Temperature: Not applicable	Test Method: Close Cup
Auto-ignition Temperature: 349°C	Exposure limit: Not applicable
Vapor Pressure: Not applicable	Vapor Density: Not applicable
Density: 0.915~0.926 g/cm <sup>3</sup>	Solubility In Water: Nil.
Partition coefficient(n-octanol/water, log Kow):---	Evaporation rate: Not applicable

## 10. STABILITY AND REACTIVITY

Stability: Stable at room temperature.
Possible hazardous reactions under specific conditions: None
Conditions To Avoid: Temperatures over 500 °F (260°C), will release combustible gases.
Materials to avoid: Strong oxidizing agents
Hazardous decomposition procedure: Fumes from decomposition of this material may include carbon dioxide, carbon monoxide, Hydrocarbon, acetic acid.

## 11. TOXICOLOGICAL INFORMATION

Routes of exposure: None
Symptoms: None
Acute toxicity: None
Chronic toxicity or long term toxicity: None

## 12. ECOLOGICAL INFORMATION

Ecotoxicity: Difficult to biodegradable. It can be recycled using suitable technologies.
Persistence and degradability: Difficult to nature degrade.
Bioaccumulative potential: None
Mobility in soil: None
Other adverse effects: Fumes from arbitrarily decomposition of this material may include carbon dioxide, carbon monoxide, Hydrocarbon, acetic acid.

## 13. DISPOSAL CONSIDERATIONS

Disposal Information: Disposal must be done in accordance with existing regulations. Bury in landfill or burn in an approved incinerator in accordance with applicable regulations.
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## 14. TRANSPORT INFORMATION

United Nations Number(Un-No): None
UN proper shipping name: None
Transport hazard class(es): None
Packing group: seabulk, bag, tycon bag.
Marine pollutant(YES/NO): NO
Special transport measures and precautionary condition: None

## 15. REGULATORY INFORMATION

Applicable regulation: None

## 16. OTHER INFORMATION

None



# Material Safety Data Sheet(MSDS)

## 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Low Density Polyethylene(LDPE)  
Other Name: Polymer-E  
Recommended use : Polymer-e can be use of the film、 injection and extrusion .  
Manufacturer or supplier: SINOPEC Shanghai Petrochemical Company Limited  
48 Jinyi Road, Jinshan District, 200540,Shanghai, PRC.  
Emergency phone/fax : +86-021-57941941

## 2. HAZARDS IDENTIFICATION

Product hazard class None  
Label content None  
Other hazards: None

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Pure material:

Chinese and English name: 低密度聚乙烯(Low Density Polyethylene)
Synonyms: LDPE
Chemical Abstracts Service No.(CAS No.): 009002-88-4
The hazardous ingredients(% of the content): Nil

### Mixtures:

Chemical properties: Solid state	
Chinese and English names of the hazardous ingredients	Concentration or concentration ranges (ingredient percentage)
None ---	

## 4. FIRST AID MEASURES

The first aid measures for different exposure routes: Inhalation: Dust may cause slight irritation, no significant health effects. Skin contact: Rapidly wash off with cool water or shower, if molten material comes in contact with the skin. Do not attempt to remove the material from skin. Eye contact: Dust may cause slight irritation. Fume may cause eye irritation as mid discomfort. Ingestion: None
The most important symptoms and hazardous effects: None
The protection of first-aiders: None
Notes to physicians: None



## 5. FIRE FIGHTING MEASURES

Suitable fire extinguishing media: water, water fog, foam, CO2, dry chemical extinguishers.
Specific hazards may be encountered during fire-fighting: Carbon Monoxide (CO) and irritating smoke may emitted when burned without sufficient oxygen.
Specific fire-fighting methods: Use water spray to cool fire exposed surface and to protect personal. Shut off “fuel” to fire.
Special equipment for the protection of fire-fighters: Wear positive pressure, self-contained breathing apparatus in any closed space.

## 6. ACCIDENTAL RELEASE MEASURES

Personal precaution: None
Environmental precaution: None
Method for cleaning up: Clean up with a shovel and/or vacuum cleaner.

## 7. HANDLING AND STORAGE

Handling: Good general ventilation should be sufficient for most conditions. During the processing of the material, avoid inhalation of fumes and scald of molten material .
Storage: Store in a cool, dry place with good ventilation. Away from source of heat and direct sunlight. Storage silo must be grounded to prevent static charge. Proper ventilation is recommended to control dust formation.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Control:---
Control parameters: 8 hours time average exposure limits/Short-term exposure limits/maximum exposure limits:---biological standard:---
Personal protective equipment: Respiratory protection: Use dust-proof mask. Hand protection: Use rubber gloves. Use thermal resistant gloves, when needed. Eye Protection: Use safety goggles, when dust is present. Skin & body protection: No precautions other than clean body-covering clothing should be needed.
Hygiene Procedures: ---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical static, color, etc): Translucent white solid pellets	Odor: negligible
Odor threshold: ---	Melting Point / Melting Range: 100~111°C
pH Value: Not applicable	Boiling point/boiling point range: Not applicable
Flammability (solid, gas): Not applicable	Flash Point: ca.340°C
Decomposition Temperature: Not applicable	Test Method: Close Cup
Auto-ignition Temperature: 349°C	Exposure limit: Not applicable
Vapor Pressure: Not applicable	Vapor Density: Not applicable
Density: 0.915~0.926 g/cm <sup>3</sup>	Solubility In Water: Nil.
Partition coefficient(n-octanol/water, log Kow):---	Evaporation rate: Not applicable

## 10. STABILITY AND REACTIVITY

Stability: Stable at room temperature.
Possible hazardous reactions under specific conditions: None
Conditions To Avoid: Temperatures over 500 °F (260°C), will release combustible gases.
Materials to avoid: Strong oxidizing agents
Hazardous decomposition procedure: Fumes from decomposition of this material may include carbon dioxide, carbon monoxide, Hydrocarbon, acetic acid.

## 11. TOXICOLOGICAL INFORMATION

Routes of exposure: None
Symptoms: None
Acute toxicity: None
Chronic toxicity or long term toxicity: None

## 12. ECOLOGICAL INFORMATION

Ecotoxicity: Difficult to biodegradable. It can be recycled using suitable technologies.
Persistence and degradability: Difficult to nature degrade.
Bioaccumulative potential: None
Mobility in soil: None
Other adverse effects: Fumes from arbitrarily decomposition of this material may include carbon dioxide, carbon monoxide, Hydrocarbon, acetic acid.

## 13. DISPOSAL CONSIDERATIONS

Disposal Information: Disposal must be done in accordance with existing regulations. Bury in landfill or burn in an approved incinerator in accordance with applicable regulations.
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## 14. TRANSPORT INFORMATION

United Nations Number(Un-No): None
UN proper shipping name: None
Transport hazard class(es): None
Packing group: seabulk, bag, tycon bag.
Marine pollutant(YES/NO): NO
Special transport measures and precautionary condition: None

## 15. REGULATORY INFORMATION

Applicable regulation: None

## 16. OTHER INFORMATION

None



# Material Safety Data Sheet(MSDS)

## 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: PP(Polypropylene)  
Other Name: -  
Recommended use : May be used to produce molded or extruded particles or as a component of other industrial products.  
Manufacturer or supplier: Shanghai SECCO Petrochemical Company Limited  
4/30F,A Building, Far East International Plaza  
No.319, Xian Xia Road,Shanghai 200051 P.R. China  
Emergency phone/fax : +86-21-52574688

## 2. HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4) : HEALTH=1 FIRE=1 REACTIVITY=0  
EC CLASSIFICATION (CALCULATED) : No classification assigned.

### EMERGENCY OVERVIEWS :

Solid pellets with slight or no odor. Spilled pellets create slipping hazard.  
Can burn in a fire creating dense toxic smoke. Molten plastic can cause severe thermal burns.  
Fumes produced during melt processing may cause eye, skin and respiratory tract irritation.  
Secondary operations, such as grinding, sanding or sawing, can produce dust which may present an explosion or respiratory hazard.

### POTENTIAL HEALTH EFFECTS :

**EYE** : Product may cause irritation or injury due to mechanical action.

**SKIN** : Pellets not likely to cause skin irritation.

**INGESTION** : Not acutely toxic.

**INHALATION** : Pellet inhalation unlikely due to physical form.

**CHRONIC / CARCINOGENICITY** :

**NTP** : Not Tested

**OSHA** : Not Regulated

**IARC** : Not Listed

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	Cont nt (%)	<u>CAS Number</u>	Exposure Limits In Air		
			ACGIH TLV-TWA	ACGIH TLV-STEL	IDLH
Polyolefin	99.25wt%	9010-79-1	10mg/m3 (inhalable fraction)	NA	NA
Proprietary additives	≅0.75wt%	mixture	-	-	-

## 4. FIRST AID MEASURES

### MEDICAL RESTRICTIONS :

**EYE :** Remove contact lenses at once. Immediately flush eyes well with copious quantities of water or normal saline for at least 15-20 minutes. If irritation persists, seek medical attention.

**SKIN :** seek medical attention if rash or burn occurs.

**INGESTION :** Not probable. If a large amount is swallowed, seek medical attention.

**INHALATION :** Not Likely to be inhaled due to physical form.

### MELT PROCESSING :

For molten plastic skin contact, cool rapidly flush with water and immediately seek medical attention.

Do not attempt removal of plastic without medical assistance. Do not use solvent for removal.

For processing fume inhalation irritation, leave contaminated area and breathe fresh air. If coughing, difficult breathing or any other symptoms develop seek medical attention at once, even if symptoms develop at a later time.

For skin contact with fume condensate, immediately wash thoroughly with soap and water. If irritation develops seek medical attention.

## 5. FIRE FIGHTING MEASURES

### FIRE FIGHTING :

Approved pressure demand breathing apparatus and protective clothing should be used for all fires. Water spray is the preferred extinguishing medium. This product will melt but will not be carried on the surface for water.

### EXTINGUISHING MEDIA :

Water spray and foam, Water is the best extinguishing medium. Carbon dioxide and dry chemical are not generally recommended because their lack of cooling capacity may permit re-ignition.

### HAZARDOUS COMBUSTION PRODUCTS :

Hazardous combustion products may include intense heat, dense black smoke, carbon monoxide, carbon dioxide, oxides of phosphorus, hydrogen cyanide, hydrocarbon fragments, hydrogen fluoride, carbonyl fluoride and fluorocarbon fragments.

**FLASH POINT:** Not Applicable

**LOWER FLAMMABLE LIMIT :** Not Established

**UPPER FLAMMABLE LIMIT :** Not Established

**AUTOIGNITION :** Not Established

**FLAMMABILITY CONDITIONS :** Requires a continuous flame source to ignite and sustain combustion.

**EXPLOSION DATA :** Not Established

**IMPACT SENSITIVITY :** Not sensitive to mechanical impact.

**STATIC DISCHARGE :** Not sensitive to static discharge. (See Section 7)

## 6. ACCIDENTAL RELEASE MEASURES

GENERAL :Sweep or gather up material and place in preper container for disposal or recovery. (See Section 13)

## 7. HANDLING AND STORAGE

### HANDLING :

Follow recommendations on label and in processing guide. Prevent contact with skin and eyes. Use good industrial hygiene proctices. Provide adequnte ventilation. Secondary operations such as grinding, sanding or sawing may produce a dust explosion hazard. Use aggressive housekeeping activities to prevent dust accumulation; employ bonding, grounding, venting and explosion relief provisions in accordance with accepted engineering practices.

### STORAGE :

Store in a dry place away from moisture, excessive heat and sources of ignition.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### ENGINEERING CONTROLS :

A continuous supply of fresh air to the workplace together with removal of processing fumes through exhaust systems is recommended. Processing fume condensate may be a fire hazard and toxic;remove periodically from exhaust hoods, duct work amd othwr suricaces using appropriate personal protection. For piwders and residual dusts refer to Section 7.

### PERSONAL PROTECTION :

**EYE/FACE** : Wear safety glasses with side shields or chemical goggles. In addition, use full face shield when cleanning processing fume condensates from hoods,ducts and other surfaces.

**RESPIRATORY** : When handling fumes are not adequstely controlled, use respirator approved for protection from organic vapors and acid gases. When dust or powder from secondary operations, such as grinding, sanding or sawing, are not adequately controlled use respirator approved for protection from dust.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**PHYSICAL STATE** : Solid

**COLOR AND APPEARANCE** : Plastic pellet with slight odor

**BOILING POINT** : Not Applicable

**MELTING POINT (°C)** : 160 170

**VAPOR PRESSURE (mmHg)** : Negligible

**VAPOR DENSITY (Air=1)** : Not Applicable

**SPECIFIC GRAVITY** : 1.40 1.60

**WATER SOLUBILITY** : Insoluble

**SOLVENT SOLUBILITY** : Slightly soluble in strong polar slovent or chlorinated solvents

**% VOLATITLES** :Negligible

**pH** :Not Applicable

**ODOR THRESHOLD** :Not Established

**EVAPORATION RATE** :Negligible

**EVAPORATION RATE** :Negligible

**COEFFICIENT WATER / OIL DISTRIBUTION** : Not Established

**COMMENT:** This product does not exhibit a sharp melting point, but softens gradually over a wide temperature range.

## 10. STABILITY AND REACTIVITY

**STABILITY** : Stable under recommended conditions of Section 7

**REACTIVITY** : Not reactive under recommended conditions of handling, storage, processing and use.

### **CONDITIONS TO AVOID :**

Do not exceed melt temperature recommendations in product literature.

In order to avoid autolgnition/hazardous decomposition of hot thick meases of plastic, purgings should be collected in small, flat shapes or thin strands to allow for rapid cooling and quenching in water.

Do not allow product to remain in barrel at elevated temperatures for extended periods of time ; purge with a general purpose resin. (See Section 8 for respiratory protection advice)

### **HAZARDOUS DECOMPOSITION :**

Major decomposition gases are oxidized hydrocarbons (probably carbon monoxide) and steam. Minor components in decomposition gas may be aldehyde, phenolic compounds, etc.

## 11. TOXICOLOGICAL INFORMATION

Not Available

## 12. ECOLOGICAL INFORMATION

Not expected to present any significant ecological problems

## 13. DISPOSAL CONSIDERATIONS

### **RCRA HAZARDOUS WASTE :**

Products is not a RCRA hazardous waste.

### **WASTE DISPOSAL :**

Recycling is encouraged. Landfill or incinerate in accourdance with federal, state and local requirements. Collected processing fume condensates and incinerator ash should be tested to determine waste classification.

## 14. TRANSPORT INFORMATION

**DOT HAZARD CLASS:** Not Regulated

**PROPER SHIPPING NAME:** Not Regulated

**IDENTIFICATION NUMBER:** Not Listed

**TDGA:** Not Listed

## 15. REGULATORY INFORMATION

Listed below are chemical substances subject to supplier notification requirements.

### U.S. REGULATIONS :

**TSCA INVENTORY STATUS :** This product complies with the Chemical Substance Inventory requirements of the US EPA TSCA.

**CERCLA SECTION 103 (40CFR302) :** Not Listed

**SARA SECTION 313 (40CFR372.65) :** Not Listed

SARA HAZARD CATEGORIES, SARA SECTIONS 311/312 (40CFR370.21)

**ACUTE:** Not Listed

**CHRONIC:** Not Listed

**FIRE:** Not Listed

**REACTIVE:** Not Listed

**SUDDEN RELEASE :** Not Listed

### STATE REGULATIONS :

**California Proposition 65 :** Not Listed

### EUROPEAN REGULATIONS :

**EC NUMBER:** Not assigned

## 16. OTHER INFORMATION

None





# Material Safety Data Sheet(MSDS)

## 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Stainless steel  
Other Name: SUS304H  
Recommended use : -  
Manufacturer or supplier: Yongxing Special Stainless Steel Co.,LTD.  
Yangjiabu, Huzhou city, Zhejiang , China  
Emergency phone/fax : +86-572-2768671

## 2. HAZARDS IDENTIFICATION

**Hazard category:**

**Invasion way:** Skin contact, eye contact, inhalation, ingestion

**Health hazard:** A lot of smoke inhalation of copper can cause metal fume fever. Patients with chills, body temperature, accompanied by respiratory tract irritation. Contact dermatitis and nose, eye irritation symptoms often occur long term exposure to copper dust workers, causing sore throat, cough, nasal congestion, rhinitis, and even cause perforation of nasal septum. Long term inhalation can cause pulmonary fibrous tissue hyperplasia.

**Environment hazard:** There is a serious harm to the environment, causing pollution to water, soil and atmospheric.

**Fire and explosion hazards:** This product is flammable dust, irritating.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	C	SI	MN	Cr	P	S	Ni
Cas No	7440-44-0	7440-21-3	7439-96-5	7440-47-3	7723-14-0	7704-34-9	7440-02-0
%	0.08	1	2	18~10	0.035	0.03	8~10

## 4. FIRST AID MEASURES

**Skin:** People should immediately flush skin with water and bind up. Must be sent to hospital to check if a person is scratched or cut badly.

**Eyes:** Open eyelids, irrigate with flowing water or normal saline, go to a doctor.

**Inhalation:** Remove to fresh air. If breathing is difficult, give oxygen. Medical treatment.

**Ingestion:** Drink plenty of warm water, emetic. Medical treatment.

## 5. FIRE FIGHTING MEASURES

**Hazard property:** No special burning explosion properties.

Meet does not react with acid (except for HF, the reaction of glass with HF can generate SiF<sub>4</sub> and cause corrosion on glass); Encounter alkali will cause corrosion (KOH and NaOH, etc.)

**Dangerous:** Insignificance

**Hazardous Combustion Products:** Insignificance

**Fire fighting methods:** Insignificance

**Fire extinguishing measures and precautions:** Insignificance

## 6. ACCIDENTAL RELEASE MEASURES

Accidental release measures: Insignificance

## 7. HANDLING AND STORAGE

**Operation cautions:** Suggest wearing a helmet, canvas protective sleeve, rubber or canvas gloves, safety glasses, safety shoes, etc. Be careful of the glass corner( glass is easy broken when glass corners impacted

**Attentions for Storage:** Glass should be stored in a dry and ventilated warehouse. The warehouse humidity generally not more than 60%. Storage areas should be ventilated, fire control devices, etc. To avoid scratches, generally use paper or cork pad between glass and glass.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Respiratory protection :**Wear a mask

**Eyes protection:** Wear protective glasses

**Body protection:** wear safety shoes

**Hands protection:** wear canvas protective sleeve, rubber or canvas gloves,

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Colorless transparent amorphous, more brittle. After toughened glass, the surface stress concentration, leading to its strength will increase than before toughened 5 ~ 6 times.

**PH value:** Insignificance

**Softening temperature:** about 720℃ Boiling temperature: Insignificance

**Density:** 2.5kg/m<sup>3</sup>

**Solubility:** insoluble in water

## 10. STABILITY AND REACTIVITY

**Stability:** stable

**Prohibited content:** hydrofluoric acid (HF), alkali (KOH、NaOH)

**Avoid contact with conditions:** 50 °C high temperature and high humidity airtight environment ( humidity of 85% or more) will cause the glass mould (weathering)

**Aggregate harm:** cannot occur

**Breakdown products:** no decomposition

## 11. TOXICOLOGICAL INFORMATION

Acute toxicity: LD50: no data available LC50: no data available Stimulus: nonsense

## 12. ECOLOGICAL INFORMATION

Environmental data: no data available

## 13. DISPOSAL CONSIDERATIONS

Glass and glass dust can be recycled into some new glass products and should be recycled wherever appropriate and possible.

Glass and glass dust is not considered a hazardous waste under USEPA RCAR, or European Hazardous Waste directive definitions

## 14. TRANSPORT INFORMATION

**Dangerous gauge number:** no data available

**The United Nations number:** no data available

**Packaging categories:** no data available

**Packing method:** Use paper or cork pad between glasses, outside with PE film, then use wooden cases with steel belt tied up.

**Transportation note:** Glass in the process of transportation, transportation vehicles shall not stop in a hurry, must be in the process of turning slowly, to avoid glass broken glass. The contact between glass and other materials must have corresponding buffer material.

## 15. REGULATORY INFORMATION

Regulatory information : no data available

## 16. OTHER INFORMATION

None

# Material Safety Data Sheet(MSDS)

## 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name:	POM(polyacetal)(acetal copolymer)
Other Name:	
Recommended use :	May be used to produce molded or extruded particles or as a component of other industrial products.
Manufacturer or supplier:	Polyplastics Taiwan Co., Ltd. No.137,Section 2,Nanjing East Road,Zhongshan District Taipei Taiwan ,R.O.C. 10485
Emergency phone/fax :	+886-2-2515-7111

## 2. HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4) : HEALTH=1 FIRE=1 REACTIVITY=0

EC CLASSIFICATION (CALCULATED) : No classification assigned.

### EMERGENCY OVERVIEWS :

Solid pellets with slight or no odor. Spilled pellets create slipping hazard.

Can burn in a fire creating dense toxic smoke. Molten plastic can cause severe thermal burns.

Fumes produced during melt processing may cause eye, skin and respiratory tract irritation.

Secondary operations, such as grinding, sanding or sawing, can produce dust which may present an explosion or respiratory hazard.

### POTENTIAL HEALTH EFFECTS :

**EYE** : Product may cause irritation or injury due to mechanical action.

**SKIN** : Pellets not likely to cause skin irritation.

**INGESTION** : Not acutely toxic.

**INHALATION** : Pellet inhalation unlikely due to physical form.

### CHRONIC / CARCINOGENICITY :

**NTP** : Not Tested

**OSHA** : Not Regulated

**IARC** : Not Listed

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>Common Name</u>	<u>CAS Number</u>	<u>Content (%)</u>
Acetal Copolymer	POM	66455-31-0	99.9

## 4. FIRST AID MEASURES

### MEDICAL RESTRICTIONS :

**EYE :** Remove contact lenses at once. Immediately flush eyes well with copious quantities of water or normal saline for at least 15-20 minutes. If irritation persists, seek medical attention.

**SKIN :** seek medical attention if rash or burn occurs.

**INGESTION :** Not probable. If a large amount is swallowed, seek medical attention.

**INHALATION :** Not Likely to be inhaled due to physical form.

### MELT PROCESSING :

For molten plastic skin contact, cool rapidly flush with water and immediately seek medical attention.

Do not attempt removal of plastic without medical assistance. Do not use solvent for removal.

For processing fume inhalation irritation, leave contaminated area and breathe fresh air. If coughing, difficult breathing or any other symptoms develop seek medical attention at once, even if symptoms develop at a later time.

For skin contact with fume condensate, immediately wash thoroughly with soap and water. If irritation develops seek medical attention.

## 5. FIRE FIGHTING MEASURES

### FIRE FIGHTING :

Approved pressure demand breathing apparatus and protective clothing should be used for all fires. Water spray is the preferred extinguishing medium. This product will melt but will not be carried on the surface for water.

### EXTINGUISHING MEDIA :

Water spray and foam, Water is the best extinguishing medium. Carbon dioxide and dry chemical are not generally recommended because their lack of cooling capacity may permit re-ignition.

### HAZARDOUS COMBUSTION PRODUCTS :

Hazardous combustion products may include intense heat, dense black smoke, carbon monoxide, carbon dioxide, oxides of phosphorus, hydrogen cyanide, hydrocarbon fragments, hydrogen fluoride, carbonyl fluoride and fluorocarbon fragments.

**FLASH POINT:** Not Applicable

**LOWER FLAMMABLE LIMIT :** Not Established

**UPPER FLAMMABLE LIMIT :** Not Established

**AUTOIGNITION :** Not Established

**FLAMMABILITY CONDITIONS :** Requires a continuous flame source to ignite and sustain combustion.

**EXPLOSION DATA :** Not Established

**IMPACT SENSITIVITY :** Not sensitive to mechanical impact.

**STATIC DISCHARGE :** Not sensitive to static discharge. (See Section 7)

## 6. ACCIDENTAL RELEASE MEASURES

GENERAL :Sweep or gather up material and place in preper container for disposal or recovery. (See Section 13)

## 7. HANDLING AND STORAGE

### HANDLING :

Follow recommendations on label and in processing guide. Prevent contact with skin and eyes. Use good industrial hygiene proctices. Provide adequnte ventilation. Secondary operations such as grinding, sanding or sawing may produce a dust explosion hazard. Use aggressive housekeeping activities to prevent dust accumulation; employ bonding, grounding, venting and explosion relief provisions in accordance with accepted engineering practices.

### STORAGE :

Store in a dry place away from moisture, excessive heat and sources of ignition.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### ENGINEERING CONTROLS :

A continuous supply of fresh air to the workplace together with removal of processing fumes through exhaust systems is recommended. Processing fume condensate may be a fire hazard and toxic;remove periodically from exhaust hoods, duct work amd othwr suricaces using appropriate personal protection. For piwders and residual dusts refer to Section 7.

### PERSONAL PROTECTION :

**EYE/FACE** : Wear safety glasses with side shields or chemical goggles. In addition, use full face shield when cleanning processing fume condensates from hoods,ducts and other surfaces.

**RESPIRATORY** : When handling fumes are not adequstely controlled, use respirator approved for protection from organic vapors and acid gases. When dust or powder from secondary operations, such as grinding, sanding or sawing, are not adequately controlled use respirator approved for protection from dust.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**PHYSICAL STATE** : Solid

**COLOR AND APPEARANCE** : Plastic pellet with slight odor

**BOILING POINT** : Not Applicable

**MELTING POINT (°C)** : 160 170

**VAPOR PRESSURE (mmHg)** : Negligible

**VAPOR DENSITY (Air=1)** : Not Applicable

**SPECIFIC GRAVITY** : 1.40 1.60

**WATER SOLUBILITY** : Insoluble

**SOLVENT SOLUBILITY** : Slightly soluble in strong polar slovent or chlorinated solvents

**% VOLATITLES** :Negligible

**pH** :Not Applicable

**ODOR THRESHOLD** :Not Established

**EVAPORATION RATE** :Negligible

**EVAPORATION RATE** :Negligible

**COEFFICIENT WATER / OIL DISTRIBUTION** : Not Established

**COMMENT:** This product does not exhibit a sharp melting point, but softens gradually over a wide temperature range.

## 10. STABILITY AND REACTIVITY

**STABILITY** : Stable under recommended conditions of Section 7

**REACTIVITY** : Not reactive under recommended conditions of handling, storage, processing and use.

### **CONDITIONS TO AVOID :**

Do not exceed melt temperature recommendations in product literature.

In order to avoid autolgnition/hazardous decomposition of hot thick meases of plastic, purgings should be collected in small, flat shapes or thin strands to allow for rapid cooling and quenching in water.

Do not allow product to remain in barrel at elevated temperatures for extended periods of time ; purge with a general purpose resin. (See Section 8 for respiratory protection advice)

### **HAZARDOUS DECOMPOSITION :**

Major decomposition gases are oxidized hydrocarbons (probably carbon monoxide) and steam. Minor components in decomposition gas may be aldehyde, phenolic compounds, etc.

## 11. TOXICOLOGICAL INFORMATION

Not Available

## 12. ECOLOGICAL INFORMATION

Not expected to present any significant ecological problems

## 13. DISPOSAL CONSIDERATIONS

### **RCRA HAZARDOUS WASTE :**

Products is not a RCRA hazardous waste.

### **WASTE DISPOSAL :**

Recycling is encouraged. Landfill or incinerate in accourdance with federal, state and local requirements. Collected processing fume condensates and incinerator ash should be tested to determine waste classification.

## 14. TRANSPORT INFORMATION

**DOT HAZARD CLASS:** Not Regulated

**PROPER SHIPPING NAME:** Not Regulated

**IDENTIFICATION NUMBER:** Not Listed

**TDGA:** Not Listed

## 15. REGULATORY INFORMATION

Listed below are chemical substances subject to supplier notification requirements.

### U.S. REGULATIONS :

**TSCA INVENTORY STATUS :** This product complies with the Chemical Substance Inventory requirements of the US EPA TSCA.

**CERCLA SECTION 103 (40CFR302) :** Not Listed

**SARA SECTION 313 (40CFR372.65) :** Not Listed

SARA HAZARD CATEGORIES, SARA SECTIONS 311/312 (40CFR370.21)

**ACUTE:** Not Listed

**CHRONIC:** Not Listed

**FIRE:** Not Listed

**REACTIVE:** Not Listed

**SUDDEN RELEASE :** Not Listed

### STATE REGULATIONS :

**California Proposition 65 :** Not Listed

### EUROPEAN REGULATIONS :

**EC NUMBER:** Not assigned

## 16. OTHER INFORMATION

None

