



FORMOSA ABS PLASTICS (NINGBO) LIMITED COMPANY

FPG INDUSTRIAL ZONE, XIAPU, BEILUM, NINGBO, CHINA

MATERIAL SAFETY DATA SHEET

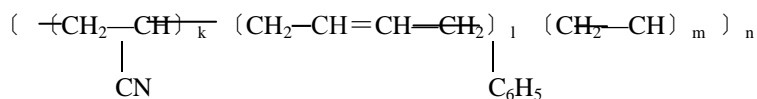
Product name: ABS Resin
Grade Name: TAIRILAC AG12A1, AG15A1, AG15E1, AG15AB ,
AF3538B , AG23AT, AG26AT, AG27AT,
AG10AP, AE8000, AG1000
Freight classification: Plastics, Milky off-white solid
Used for: Injection and Extrusion
Dated Prepared: October 01, 2003
Dated Revised: November 16, 2016

1. COMPANY IDENTIFICATION

Manufacturer (Company)
Name: FORMOSA ABS PLASTICS (NINGBO) LIMITED COMPANY
Address: FPG INDUSTRIAL ZONE, XIAPU, BEILUM, NINGBO, CHINA.
Department: Plastics Division
Telephone Number: 86-574-86902999 Ext.2116
Facsimile Number: 86-574-86902903
Emergency Phone: 86-574-86902999 Ext.2132

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name: Acrylonitrile-Butadiene-Styrene Copolymer
Chemical Formula (Constitutional or Structural):



Ingredients and Composition: Approx. 100%
Published Reference number of Gazette:
Chemical Substances Control Law: 6-720, 6-126
CAS registry number: 09003-56-9

3. HEALTH HAZARD INFORMATION

Class Name: Not Applicable
Physical and Chemical Hazards: Not Applicable
Adverse Human Health Effects: Not Applicable
Environmental Effects: Not Applicable

4. FIRST AID MEASURES



FORMOSA ABS PLASTICS (NINGGBO) LIMITED COMPANY

FPG INDUSTRIAL ZONE, XIAPU, BEILUM, NINGBO, CHINA

Eye Contact:

When it enters the eyes, if the eyes are rubbed, it may cause irritation or injure the cornea. Thus, wash with water without rubbing. Remove contact lenses immediately. In case of any abnormalities, receive the treatment of a physician.

Skin Contact:

Wash with water. If condensates of gas generated from the substance molten at high temperature comes into contact with the skin, wash well with soapy water.

Inhalation:

Judging from the shape, it is unlikely that the pellets will be inhaled. In case lots of fumes generated from high temperature molten resins are inhaled, move to a place having fresh air. In case of coughs or difficulty in respiration, receive the treatment of a physician.

Ingestion:

Although this is unlikely to happen, there is no acute toxicity even if it is swallowed. In case large amount of it is swallowed. Receive the treatment of a physician.

5. FIRE AND EXPLOSION HAZARD DATA

Extinguishing Measures:

At the time of fire, high heat as well as gases containing dense black smoke, carbon dioxide, carbon monoxide, nitrogen oxides, etc. are generated. At the time of fire-fighting, wear proper protective clothing and respirators.

Extinguishing Media:

Water, water spray, and various kinds of fire-extinguisher may be used.

6. ACCIDENTAL RELEASE MEASURES

In case it is spilled on the road or floor, there is danger of slipping and falling. Thus, collect the spilled pellets and dispose of them.

If it is accidentally released, it may cause environmental contamination, so immediately collect all that have been released.

7. HANDLING AND STORAGE

Handling:

The gas generated at the time of processing may irritate the respiratory organs and skin. and when inhaled in large amount, vomiting and headaches may occur in certain individuals. Thus, avoid inhalation of such gases. In the case of mechanical processing (cutting, sanding, etc.), the fine dust generated by crushing may cause dust explosion by the static electricity and electrical sparks that are generated. Thus, aim at keeping the work place clean so that dust will not accumulate.

Storage:

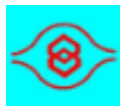
Store in a place which is not exposed to the direct rays of the sun, and keep away from heat or ignition sources.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Control Concentration: Not Specified

Tolerable Concentration:

Neither Japan Association of Industrial Health nor ACGIH specifies the tolerable concentration of ABS resin dust,



FORMOSA ABS PLASTICS (NINGGBO) LIMITED COMPANY

FPG INDUSTRIAL ZONE, XIAPU, BEILUM, NINGBO, CHINA

but it is believed that the following values are reasonable guidelines for operation.

Item	Time Weighted Average Value	
	Inhalable Dust	Total Dust
Recommendation Value of Japan Association of Industrial Health (1995) Class 3 Dust	2 mg/m ³	8 mg/m ³
Recommendation Value of ACGIH (1995~1998) (Nuisance Dust)	5 mg/m ³	10 mg/m ³

Equipment Countermeasures:

At the time of processing in high temperature, gas will be generated from the portion open to the atmosphere. Thus, in order to obtain comfortable work environment, it is desirable to install local ventilation.

Protective Equipment for Respiration:

In case of work which generates dust such as mechanical processing or sanding of resin products, dust respirator shall be worn. In case of work is done in a place having high concentration of generated gases or fumes, wear a chemical cartridge respirator (for organic chemicals).

Protective Goggles:

In case of work which generates dust such as mechanical processing or sanding of resin products, wear protective goggles made of plastics.

Protective Gloves:

When handling pellets, there is no special need of gloves, but when handling molten resins, wear gloves having good thermal insulation.

Protective Clothing:

Ordinary work clothing will do, but in case of handling molten resins, wear work clothing having long sleeves.

9. PHYSICAL AND CHEMICAL PROPERTY

Appearance:	Milky Off-White Pellet Form Solids
Boiling Point:	None
Initial Boiling Point:	None
Vapor Pressure:	None
Volatility:	None
Melting point:	There is no definite melting point, and it becomes soft gradually over a broad range (130°C ~ 150°C)
Specific Gravity:	1.03 ~ 1.07
Solubility:	Insoluble in water

10. STABILITY AND REACTIVITY

Flash point: None

Upper Explosion Limit: None

Lower Explosion Limit: None

Flammability:

Autoignitability: Autoignition Temperature is 466 °C (ASTM-D1929-77)

Reactivity with Water: None

Oxidizability: None as far as ordinary storage and handling are concerned.

Self-Reactivity / Explosiveness:



FORMOSA ABS PLASTICS (NINGGBO) LIMITED COMPANY

FPG INDUSTRIAL ZONE, XIAPU, BEILUM, NINGBO, CHINA

Although there is no self-reactivity at normal temperature. When the temperature becomes high (280°C ~400°C), the resin decomposes and generates decomposed gases. Thus, the molten resin shall be cooled rapidly with water.

Dust Explosiveness: Explosive

Stability / Reactivity:

None as far ordinary storage and Handling are concerned.

11.TOXICOLOGICAL INFORMATION

Skin Corrosiveness: None

Irritability (Skin, Eyes): There is physical irritability.

Allergenic and Sensitizing Effects: None

Acute Toxicity (Includes 50% Lethal Dose):

Oral LD₅₀ (Rat) > 5g/kg (Assumed Value)

Sub-Acute Toxicity: No Information

Chronic Toxicity: No Information

Carcinogenic Effects: No Information

Mutagenic Effects: No information

Effects on the Reproductive System: No Information

Teratogenic Effects: No Information

Others (Includes generation of toxic gases by reaction with water, etc.)

12.ECOLOGICAL INFORMATION

Biodegradability: Not Biodegradable

Bioaccumulation : No Information

Fish Toxicity: No Information

Others: In order to prevent the marine animals and birds from ingesting it, it just not be abandoned or dumped in any ocean or water area.

13.DISPOSAL CONSIDERATIONS

It shall be handled in accordance with the laws, rules, and ordinances related to the disposal of waste matters.

14.TRANSPORT INFORMATION

Avoid wetting or rough handling so that the packaging will not be damaged. In case the bags are damaged and the pellets are scattered, pay attention so that no one will slip and fall. All of the materials that have spilled shall be rapidly collected.

15.REGULATORY INFORMATION

The Fire Services Act of Japan Specified Flammables (3,000 kg or above)

16.OTHER INFORMATION



FORMOSA ABS PLASTICS (NINGGBO) LIMITED COMPANY

FPG INDUSTRIAL ZONE, XIAPU, BEILUM, NINGBO, CHINA

References: 1)

Manual for Preventing the Discharging of Resin Pellets / Japan Plastics Industry Federation February, 1993.

The information described herein was prepared on the basis of the materials, information, and data available at the present time, and the above information may be revised by new knowledge. The precautionary items were based on ordinary handling. In case of special handling, safety measures in compliance with the application and usage shall be executed. The above was given as information, and no guarantee, express or implied, is made. Final determination of safety and suitability of any material is the sole responsibility of the keeper and user. All materials may present unknown hazards, and therefore should be handled with adequate caution. Although certain hazards are described herein, they may not be the only hazards in relation to the products.