

Asahi Kasei

Asahi Kasei Chemicals

Product Name: Stylac™ - AS

MSDS Regulation Number: 30J7

Created: October 1, 2003

Revised: December 1, 2003 (20th version)

MSDS

1/5

Section 1 – Product and Company Identification

Product Identification: Stylac™ - AS

Product Code (grade name): 709, 767, 769, 783, 789

MSDS Reference Number: 30J7

Manufacturer's Name: ASAHI KASEI CHEMICALS CORPORATION

Manufacturer's Address: 3-1 Yakou 1-chome, Kawasaki-ku, Kawasaki city, Kanagawa, Japan, 210-0863

Department: ABS Technical Development Department

Telephone Number: : +81-4-4271-2650

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Section 2 - Composition, Information on Ingredients

Homogenous/ Mixture Classification: Mixture

Chemical Name: Styrene Acrylonitrile copolymer, or a mixture of this copolymer and an additive agent.

Composition	% By Weight
Styrene Acrylonitrile copolymer (A)	Over 95%
Additive agent	Less than 5%

	Chemical Formula	Official # (CSCL/ISHL)*	CAS #
(A)	$-(C_8H_8)_2-(C_3H_3N)_n-$	6-126	9003-57-7

* Chemical Substance Control Law (CSCL)/ Industrial Safety and Health Law (ISHL)

Hazardous Contents: Not Applicable

Section 3 - Hazards Identification

Extreme Hazards: Not Applicable

Specific Hazards: Not Applicable

Section 4 - First Aid Measures

Inhalation: If fumes from molten material are inhaled and cause a sick feeling, move to fresh air and await recovery. If recovery does not occur, seek medical attention.

Skin Contact: Wash skin with water. If condensation of fumes or vapors released by molten plastics occurs on skin, wash area with soap and water. If melted plastics contact skin, cool area with clean water, and seek immediate medical assistance.

Eye Contact: If eyes become itchy or irritated, refrain from rubbing as it may cause damage to the cornea, and irrigate eyes for at least 15 minutes, ensuring adequate cleansing. If contact lenses are being used, they should be removed immediately. If discomfort or abnormality continues, seek medical attention from a physician.

Ingestion: No acute toxicity. If a large amount is ingested, seek medical attention.

Precautions for Individual Performing Emergency Measures: Wear protective gloves when disposing molten plastics or heated materials.

MSDS

2/5

Section 5 - Fire Fighting Measures

Extinguishing Media: Water, water spray, or other forms of fire extinguishers

Specific Hazards When Ignited: When this plastic is burning, it is extremely hot and releases dark smoke and hazardous fumes such as carbon dioxide, carbon monoxide and nitrogen oxide.

Specific Fire Fighting Methods: When engaged in fire fighting, if possible, fight the fire from an upwind position.

Precautions for Individual Performing Fire Control Measures: Wear protective equipment such as self-contained breathing apparatus and protective clothing when fighting a fire.

Section 6 - Accidental Release Measures

Cautions for Workers: Both pellets and dust left on the floor create a high risk of slipping, and must be cleaned and disposed of quickly.

Environmental Cautions: Because materials drained into the sewage system or into any bodies of water have a negative influence on wildlife like birds and fish, all waste should be collected and disposed of properly.

Methods of Disposal: A vacuum or broom can be used to collect and dispose of any small amounts.

Secondary Fire Prevention: Please dispose of as outlined in Section 13 – Disposal.

Section 7 - Handling and Storage

Handling: Gases that are released during processing can cause irritation to the skin and respiratory system. Refrain from inhaling these fumes, as inhalation of large amounts can cause illnesses like nausea and headaches varying with each individual.

Wear appropriate protective clothing.

During processing, never let the molten plastics directly touch one's body.

Using processing material with power equipment (like when cutting and sanding) or when crushing, dust is created. Static electricity and electric sparks can cause this dust to ignite, producing a dust explosion. Along with safety measures to prevent static electrical accidents, care should be taken to keep the workplace clean and tidy, to prevent dust from accumulating.

Storage:

Important Storage Requirements: This material is designated as a flammable material (compound plastics) by Fire Department Regulations, and should be handled and stored according to local city regulations.

Store away from direct sunlight.

Avoid storing in places with high temperature and humidity.

When storing, avoid heat and sources of ignition.

Take measures to prevent fires from static electricity.

Safety Wrap: Use a strong, reinforced bag that is resistant to tearing and damage.

Section 8 - Engineering Controls & Personal Protective Equipment

Facility Management: Because processing at high temperatures releases fumes into the atmosphere, it is recommended that local ventilation systems are installed to create an agreeable work environment.

Concentration Control: Not established.

Permissible Concentration: Japan Society for Occupational Health (JSOH) as well as the American Conference of Governmental Industrial Hygienists (ACGIH) have not specified a permissible concentration level for the dust of AS plastics, but the following values are considered relevant for application to this material.

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MSDS

3/5

JSOH Recommended Levels - 1997 Third-class dust concentration levels	Average value of time load	
	Respirable Particulate	Inhalable Particulate
ACGIH Recommended Levels - 1996-1997 Permissible concentration of general dust levels (Nuisance Dust)	2 mg/ m ³	8 mg/m ³
	3 mg/ m ³	10 mg/m ³

Protective Equipment:

Respiratory Protection: When dust is created due to the use of machinery for processing and sanding plastic products, a dust respirator should be worn to prevent inspiration of dust particles.

Hand Protection: When handling pellets, no particular protection is necessary, but when handling molten polymeric resins, heat-resistant gloves should be worn to prevent thermal burns.

Eye Protection: When dust is created due to the use of machinery for processing and sanding plastic products, it is recommended that plastic safety glasses be worn.

Clothing: Everyday factory clothing is suitable, but when handling molten polymeric resins, wear long-sleeved clothing.

Section 9 - Physical & Chemical Properties

Outward Appearance:

Physical State: Solid

Shape: Pellets

Color: There are various colors depending on the pigment used.

Odor: At standard temperatures, no significant odor

pH: No data available

Temperature at which the physical state changes

Melting Point: Although not clearly melted, at a variable temperature (130-150°C), it gradually becomes malleable.

Flash Point: No available data.

Point of Ignition: above 405°C (ASTM-D 1928-77)

Explosion Limits

Lower Limit: 60 g/m³ (average particle diameter: 200 micrometers)

Upper Limit: No available data.

Density: 1.05-1.15 g/cm³

Solubility

Water: Non-soluble.

Other Solvents: Partly soluble in methylethyketone and acetone solutions.

Section 10 - Reactivity

Stability: Stable during standard handling and storage.

Reactivity: None.

Conditions to avoid: Avoid storage in direct light, around fire, at sources of heat, etc.

Incompatible: Nothing specific.

Hazards Decomposition: Not applicable.

Asahi Kasei

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MSDS

4/5

Section 11 - Toxicological Information

Acute Toxicity: Oral Toxicity: LD50>5 000 mg/kg (estimated value) in rats (*including 50% lethal dose*)

Local Effects (skin, eyes): Can cause physical irritation.

Sensitivity: None known.

Genotoxicity: None known.

Section 12 - Ecological Information

Persistence/ Decomposition: No relevant studies identified.

Accumulation in Body: No relevant studies identified.

Ecological Toxicity:

Fish: No relevant studies identified.

Other Animals: No relevant studies identified.

However, in order to prevent marine animals and birds from ingesting this material, refrain from any kind of discharge or disposal into the ocean or any body of water.

Section 13 - Disposal

This product can be incinerated or buried in a landfill disposal site, but when disposing, do so in accordance with the laws concerning the disposal and cleaning of waste. Please entrust the disposal to authorized industrial waste management firms or local public organizations.

Section 14 - Transportation Information

International Regulations:

IMDG (International Marine Dangerous Goods) code: Not Applicable

JCAO-TI (Japan Citizen's Airplane Organization - Technical Initiative), IATA-DGR (International Airway Transportation Association – Dangerous Goods Regulation): Not Applicable

UN Classification: Not Applicable

UN Number: Not Applicable

Japan Regulations: Not Applicable

Specific Transportation Safety Measures and Conditions: In order to prevent damage to the bag, avoid getting wet as well as rough and careless handling. If pellets spill from a damaged bag, use caution not to slip and fall on them. Be sure to collect any and all spilled pellets promptly.

When transferring in the air, always follow static electrical fire prevention measures like lowering the transfer rate and ensuring there is a ground cable.

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5/5

Section 15 – Regulatory Information

Fire Department Regulations: Stores over 3000 kg are subject to article 3 of chapter 9 of the Fire Department Regulations.

Chemical Products Control Promotion Regulation (Chapter 57, article 2.1, orders for authorized persons) - (Products containing more than one percent wt of materials requiring disclosure (MRDs) due to their hazardous properties): This product may contain general pigments which contain titanium oxide (MRD #192) in amounts over one percent wt and less than ten percent wt. Some particular pigments contain iron oxide (MRD #193) and carbon black (MRD #131), and may be found in this product in quantities over one percent wt and less than ten percent wt.

Section 16 - Other Information

This material safety data sheet (MSDS) has been created based on the latest available materials and data, and has been revised to reflect new information. The warnings and cautions within this MSDS assume normal usage. Special, unique usage of this product should be conducted according to appropriate safety measures. This MSDS contains adequate warnings by our company, but we do not purport to guarantee all contents.

This material should never be used as medical equipment with parts implanted in the body that directly touch the tissues or body fluids for a continued amount of time.

Also, please consult our company for usage in safety products used in dangerous situations (i.e. helmet, objects that contact babies' mouths, objects that could be ingested, objects that require antibacterial agents, etc).

Use of this product in compound plastics with materials like polyolephin to be used for food containers is subject to the food sanitation law, self-restriction standards, foods and additives regulatory standards (the 1959 Ministry of Health and Welfare notice number 370 as well as the 1976 Ministry of Health and Welfare notice number 20), and UL, CSA, Electrical Appliance and Material Control Law, each with it's own compatible grades.

However, these have specific evaluation laws that are used to assess relevant materials, so the appropriate safety evaluation should be selected based on the actual usage of the product.

Please contact our company to discuss any details regarding the appropriate grades, or evaluation procedures.

Reference Material

Manual for the prevention of plastic pellet spills, All Japan Plastic Products Industrial Federation, February, 1993.

Methods to measure flammable dust explosion pressure and increasing pressure speed, Ministry of Health and Welfare, March, 1994.

Clayton, G.D., Clayton, F.E., **Patty's Industrial Hygiene and Toxicology: General Principles, 4th Edition**, Wiley-Interscience, July, 1991.

Inquiries about this MSDS: Asahi Kasei Chemicals Corporation
ABS Technical Development Department