

MATERIAL SAFETY DATA SHEET

First Issue: Apr. 30. 1988

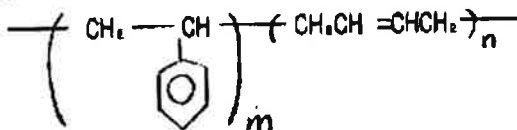
1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

COMPANY NAME : DENKI KAGAKU KOGYO K. K.
 COMPANY ADDRESS : 1-4-1, Yuraku-Cho, Chiyoda-Ku, Tokyo 100 Japan
 TELEPHONE : 81-3-3507-5303
 FAX : 81-3 3507-5504
 EMERGENCY PHONE : 81-438-21-8181 Denki-Kagaku-Kogyo Chiba Plant
 (Mon-Fri 8:30 am - 5:00 p.m.)
 PRODUCT DESCRIPTION : Styrene-butadiene block polymer
 TRADE NAME : DENKA CLEAREN

2. COMPOSITION / INFORMATION ON INGREDIENTS

COMPOSITION : Styrene-butadiene block polymer
 CAS NO. 9003-55-8

CHEMICAL FORMULA :

**3. HAZARDS IDENTIFICATION**

IDENTIFICATION	Class	Not applicable
	Physical and Chemical Hazards	Not applicable
	Adverse human health effects	Not applicable
	Environmental effects	Not applicable

4. FIRST AID MEASURES

EYES : Immediately flush the affected eyes well with clean water. Seek medical attention if irritation persists.

SKIN : Wash well with water. If condenses of gas generated from the substance molten at high temperature, wash well with soapy water. In case of molten plastic contact with skin, cool immediately with water and seek medical attention.

INHALATION : Not likely to inhale pellets due to their physical form. If inhale gases and/or fumes from the molten resin at high temperature. Leave the place immediately and breathe fresh air. If coughing and/or difficult breath occurs, seek immediate medical attention.

INGESTION : Not likely to ingest. If a large amount is swallowed, seek medical attention.

5. FIRE FIGHTING MEASURES

FIRE FIGHTING : This product generates intense heat, dense black smoke, carbon dioxide, carbon monoxide, carbon, hydrogen cyanide and so on. Wear fire protective clothing and breathing apparatus for fire fighting.

EXTINGUISHING MEDIA : Water pouring, water spray and regular fire extinguishers can be used.

6. SPILL OR LEAK PROCEDURES

If spilled on road or floor, sweep and collect materials to prevent slipping and falling. Released materials must be collected for environmental protection.

7. Handling and storage

HANDLING : Gases generated during processing the material may cause irritation to the skin and the respiratory organs. If a large amount of the gases is inhaled, it may cause nausea and headache. Refrain from inhaling them.

Prevent dust accumulation from cutting and grinding the materials, which may cause a dust explosion by electrostatic charges or electric spark.

STORAGE : Store under no direct sunlight and in a dry place avoiding excessive heat and sources of ignition. Prevent electrostatic charges which may cause explosion.

8. EXPOSURE CONTROLS

GUIDELINE : The following guideline is available.

		<u>Dust to be respired</u>	<u>Total Dust</u>
Japan association of Industrial health (1992)	Class 3 dust	2 mg/m ³	8 mg/m ³
ACGIH(92-93)	Normal dust	5 mg/m ³	10 mg/m ³

ENGINEERING MEASURES : Local ventilation system is required for better working environment as gases are generated during the high temperature processing of the materials.

RESPIRATOR : Wear respirator during machinery processing or sanding of resin which produces dust. When working under high dense gases and/or fumes circumstances, wear organic gas respirator.

SAFETY GLASSES : Wear protective glasses during machinery processing or sanding.

PROTECTIVE GLOVES : Wear heat-resistant gloves when handling molten resin.

PROTECTIVE CLOTHING : Wear long sleeve clothing when handling molten resin.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE : Solid pellet
MELTING POINT : No definite temperature. Softening in the broad range of temperature above 100°C.
SPECIFIC GRAVITY : 1.01-1.03(23°C.)
SOLUBILITY : Water - Insoluble
 methyl ethyl ketone, benzene, toluene- soluble

10. STABILITY AND REACTIVITY

AUTOIGNITABILITY : Stable under normal conditions. But it will decompose at very high temperature and release ignition gas.

FLAMMABILITY : Flammable

OXIDIZABILITY : None

STABILITY AND REACTIVITY : Stable under normal conditions of storage of handling and no risk of autoignition and explosion at normal temperature

11. TOXICOLOGICAL INFORMATION

SKIN CORROSIVENESS : None

IRRITABILITY (SKIN/EYE) : Physical irritation is observed when decomposition.

ACUTE TOXICITY : None

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

12. ECOLOGICAL INFORMATION

BIODEGRADABILITY : No information

BIOACCUMULATION : No information

FISH TOXICITY : No information

OTHERS : Do not dump or release the materials in ocean or lake to prevent marine animals or birds from ingesting.

13. DISPOSAL INFORMATION

Comply with national and/or local regulations.

14. TRANSPORTATION INFORMATION

Avoid moisture and rough handling which may damage its package. If bag is

broken and the materials are spilled, sweep and collect them immediately to prevent slipping and falling.

15. REGULATORY INFORMATION

Comply with national and local regulations.

This information is based on currently available technical materials and data, and is subject to change due to new experience and knowledge.

All guideline is for ordinary use and not for special application or handling, which requires proper safety measures.

This publication is made to provide information only and does not guarantee anything.