

NITTO DENKO

Material Safety Data Sheet (MSDS)

Prepared on : 2004/10/05

1. Product and company identification

Product name EPOXY MOLDING COMPOUND for IC

Name of product(chemical name, brand name, etc.) : MP-180S

Supplier product code: 73790-12-40-1-1-E 0104110046

Company identification

Name of the supplier: NITTO ELECTRONICS KYUSHU CORPORATION

Address : 842-0031 2307-2, YOSHIDA, MITAGAWA, KANZAKI, SAGA, JAPAN

A Section in Charge : QUALITY ASSURANCE SECTION

Telephone number : 0952-53-3820

FAX number : 0952-53-4186

Emergency telephone number : 0952-53-1166

2. Composition / information on ingredients

Distinction between a
substance and a
preparation : Compound

The common chemical name or the generic name	Solid Epoxy Resin	Phenol Resin	Fused Silica
Synonyms	-	-	-
Chemical formula or structural formula	-	-	SiO ₂
Content (mass%)	2-20	2-20	60-95
The serial number of the notifications on the official gazette	-	-	5-3540
CAS number	-	-	60676-86-0
The common chemical name or the generic name	Crystalline Silica	Carbon Black	Antimony Trioxide
Synonyms	-	-	-
Chemical formula or structural formula	SiO ₂	C	-
Content (mass%)	below 5	below 1	1.1
The serial number of the notifications on the official gazette	1-548	-	1-543
CAS number	14808-60-7	1333-86-4	1309-64-4

3. Hazards identification

Hazards classification : Not classified as flammable but will burn.

Most important hazards and effects of the product**Adverse human health effects :**

Dust or small particles abrade skin and irritate eyes.

Carbon Black: Can cause cancer, IARC 2B

Silica: See section 11

Cristalline Silica, Carbon Black and Antimony Trioxide are listed in US California Proposition 65 as chemicals can cause cancer.

Environmental effects :

No specific hazards.

Physical and chemical hazards :

May occur extraordinary reaction and generate high temperature when contact with strong alkalis or acids.

Specific hazards :

May irritate skin and eyes with prolonged and repeated contact.

4. First-aid measures**Inhalation :**

If affected, move victims to fresh air. Keep victims at rest.

Skin contact :

Wash exposed area with lots of soap and water. Remove contaminated clothing and launder before re-use.

Eye contact :

Immediately flush with large amounts of water for at least 15 minutes, lifting upper and lower lids occasionally. Get medical attention.

Ingestion :

Do not induce vomiting. Get immediate medical attention.

A brief description of the most important symptoms and effect :**Protection of first-aiders :****Special notes to a physician :****5. Fire-fighting measures****Extinguishing media :**

Dry chemical, carbon dioxide, water spray or foam.

NOT suitable extinguishing media :

Water in a jet.

Specific hazards :

May produce oxides of carbon if incomplete combustion occurs.

Specific methods :

Keep personnel removed from and upwind of fire.

Protection of firefighters :

Wear full protective clothing and self-contained breathing apparatus with full face-piece.

6. Accidental release measures**Personal precautions :**

Persons not wearing protective equipment should be excluded from the area of the spill until clean-up has been completed.

Environmental precautions :	Prevent spills from entering sewers, watercourses or low areas.
Methods for Cleaning up	
Recovery :	In case of spill wipe up with wipers or vacuum cleaners, then put it into a chemical waste containers.
Neutralization :	
Disposal :	See Section 13 for information in disposal.

7. Handling and storage

Handling

Technical measures :	Use closed or covered containers.
Prevention of user exposure :	Avoid contact with skin, eyes and clothing. Avoid inhalation of vapors. Wash skin thoroughly after handling.
Prevention of fire and explosion :	Use explosion-proof equipment when handling.
Precautions :	Apply local ventilation over processing areas.
Safe handling advice :	Avoid contact with strong acids or alkalis.

Storage

Technical measures :	Keep containers closed or covered and dry.
Incompatible products :	Strong acids or alkalis.
Storage conditions	
Suitable storage conditions :	Keep under 5 degreeC in covered containers and away from direct sunlight, heat and open flames when not in use.
Storage conditions to be avoided :	Avoid keeping in higher temperature.
Packaging materials :	Closed or covered containers.
Recommended :	Use closed containers with impervious materials.
Not suitable :	Avoid overexposure in higher humidity.

8. Exposure controls / personal protection

Engineering measures :	Provide sufficient ventilation to maintain exposure below established exposure limits or level of overexposure.
Control parameters :	Carbon: ACGIH(1998) TLV-TWA 3.5mg/m ³ OSHA (1998) PEL-TWA 3.5mg/m ³ Silica: ACGIH TWA 0.1mg/m ³
Personal protective equipment	
Respiratory protection :	Half mask respirator with an organic vapor cartridge.

Hand protection :	Wear impervious protective gloves such as polyethylene or certain synthetic rubbers (contact your safety equipment supplier).
Eye protection :	Dust-tight goggles.
Skin and body protection :	Impervious clothing and boots are recommended.

9. Physical and chemical properties

Physical state

Form :	Tablet or Powder
Colour :	Black
Odour :	Faint odour
pH :	NA
Specific temperature / temperature ranges at which changes in physical state occur	
Boiling point :	NA
Boiling range :	NA
Fusing point :	70-110 degreeC
Decomposition temperature :	above 200 degreeC
Flash point :	above 200 degreeC
Autoignition temperature :	above 200 degreeC
Explosion properties :	No data
Vapour pressure :	NA
Vapour density :	NA
Density :	No data
Solubility, with indication of the solvent :	Not miscible in water, miscible in Ketone.

10. Stability and reactivity

Stability :	Stable below 5 degreeC, at least 6 months in a closed container.
Possible hazardous reactions occurring under specific conditions :	May occur extraordinary reaction when contacted with strong acids, alkalis or hardeners for epoxy resins.
Conditions to avoid :	Store in high temperature or humidity.
Materials to avoid :	Strong acids, oxidising agents or hardeners for epoxy resins.
Hazardous decomposition products :	Thermal decomposition may form carbon monoxide, carbon dioxide, nitrogen, nitrogen oxide and water vapor.

11. Toxicological information

Acute toxicity :	Solid Epoxy Resin: Oral-Rat LD50 over 5000mg/Kg NOEL. 50mg/Kg/day
Local toxicity :	Not cleared.
Specific effects	
Carcinogenicity :	Fused Silica: Listed as Level 3 in IARC Cristalline Silica: Listed as Level 1 in IARC

12. Ecological information

Information on fate

Mobility :	Sinks in water.
Bioaccumulation :	Has potential to bioaccumulate.
Ecotoxicity :	Practically non-toxic.

13. Disposal considerations

Product :	Incineration is the recommended disposal method for chemical waste such as this product. Dispose to licensed disposal processor.
Waste from residues :	Dispose to licensed disposal processor.
Contaminated packaging :	Remove all packaging for recovery or waste disposal. Dispose as industrial waste

14. Transport information

Informations for Code and classification at international regulations

Land :	Assure containers are not damage to prevent leakage of product before loading.
The UN classification number :	NA

15. Regulatory information

Regulations :	It is necessary to follow all regulations in your country. US California Proposition 65
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16. Other information

Disclaimer:

This information is made based on data from such as raw material MSDS, and our current knowledge. The information contained herein is believed to be accurate, and is intended to describe the product for the purposes of health, safety and environmental requirements.