

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

1.1 Identification of the substance or preparation

(a) Material name : *Reworking solvent*

(b) Brand name : **RP-04**

1.2 Company / undertaking identification

(a) Manufacturer / Supplier

Company : *Hitachi Chemical Co.,Ltd Goshomiya Works*

Department of contact : *Production Development*

Address : *1150 , Goshomiya , Shimodate-shi , Ibaraki , 308-8524 Japan*

Phone No. : *0296-20-2471(Japan)*

Fax No. : *0296-28-1305(Japan)*

(b) Subsidiary

Company : *Hitachi Chemical Co. (Hong Kong) Ltd.*

Address : *Room 801, Tsimshatsui Centre, West Wing, 66 Mody Road, Tsimshatsui East, Kowloon, Hong Kong*

1.3 Emergency call

HCH : 852 23669304 (Business hours)

Hitachi Chemical Co.,Ltd. Goshomiya Works. : 0296-28-2222 (Japan) (24 hours)

2. COMPOSITION / INFORMATION ON INGREDIENTS

2.1 Substances presenting a health hazard with the meaning of the dangerous

Material	CAS No.	Content.	Chemical Formula	TLV(ACGIH)
<i>Epoxy Resin</i>	<i>25068-38-6</i>	<i>Approx. 5wt%</i>	<i>H₂₀O₃C₁₈</i>	<i>No Data</i>
<i>N-Methyl-2-pyrrolidone</i>	<i>872-50-4</i>	<i>Approx. 84wt%</i>	<i>C₅H₉NO</i>	<i>No Data</i>
<i>Silicon Dioxide</i>	<i>7631-86-9</i>	<i>Approx. 11wt%</i>	<i>SiO₂</i>	<i>No Data</i>

3. HAZARDS IDENTIFICATION

3.1 Hazard Summary

Class name of hazardous chemicals : *Not Applicable*

Physical and chemical hazards : *May form explosive dust-air mixture of vapors/air exceeding 205 ° F(96)*

3.2 Others

Adverse human health effects : *Avoid exposure to woman in pregnancy .Inhalation of high vapor concentrations causes headache, nausea and vomiting .Skin contact and dermal adsorption may cause the risk of reproductive and development effects.Irritating to eyes. Skin and mucous membrane.*

4. FIRST-AID MEASURES

- Inhalation : *Remove the victim from the contamination immediately to fresh air. If breathing is weak, irregular or has stopped, open his airway, loosen his collar and belt and administer artificial respiration..*
- Skin : *Remove all contaminated clothing , shoes , socks from the affected areas as quickly as possible.*
- Eyes : *Gently rinse the affected eyes with clean water for at least 15minutes . Ask the victim to look up, down and side to side as you rinse in order to better reach all parts of eyes .*
- Ingestion : *Do not induce vomiting. If the victim is responsive, give him ca. 250ml of water or milk. And refer for medical attention. Never give anything by mouth to someone who is unconscious or consoling.*

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA : *Dry chemical powder , carbon dioxide , roam ,dry sand .*

SPECIFIC HAZARDS WITH REGARD TO FIRE-FIGHTING MEASURE :

- *Dry chemical powder , carbon dioxide or dry sand should be used for small-fires.*
- *Large fires are best controlled by foam.*
- *Apply water from a safe distance to cool and protect surrounding area. Move container from fire areas if it can be done without risk.*
- *Firefighters should wear proper protective equipment.*
- *Evacuate non-essential personnel into surrounding area of fires.*

6. ACCIDENTAL RELEASE MEASURES

IN CASE OF DISPERSION ON A FLOOR OR A TABLE : *Thoroughly clean the floor or the table using damp cloth with gloves.*

7. HANDLING AND STORAGE

HANDLING : *Wear a suitable protectors to avoid any contact with skin or eyes.*

STORAGE : *Store in a cool and dark place with good ventilation.*

8. EXPOSURE CONTROL / PERSONAL PROTECTION

PERSONAL PROTECTION EQUIPMENT

EYE PROTECTION : *Safety goggles or face shield.*

HAND PROTECTION : *Chemical-resistant gloves.*

9. PHYSICAL / CHEMICAL PROPERTIES

APPEARANCE : *Transparency*

DENSITY : *1.0(77 ° F (25))*

SOLUBILITY IN WATER : *Insoluble*

SOLUBILITY IN ORGANIC SOLVENT : *Insoluble*

CHEMICAL NAME	VAPOUR PRESSURE(P a)	BOILING POINT	VAPOUR DENSITY(Air=1)
<i>N-Methyl-2-pyrrolidone</i>	<i>66(77 ° F (25))</i>	<i>396 ° F (202)</i>	<i>3 . 4</i>

10. PHYSICAL HAZARD (STABILITY AND REACTIVITY)

This material is considered a stable material under normal and anticipated storage and handling condition.

PHYSICAL HAZARD		PRODUCT
FLASH POINT		205 ° F(96)
AUTOIGNITION TEMP		655 ° F(346)
EXPLOSION LIMIT (IN AIR)	UPPER(%)	3.9
	LOWER(%)	0.99

11. TOXICOLOGICAL INFORMATION

11.1 Route of entry : *May cause absorption in the body by inhalation , dermal and oral ,N-methyl-2-pyrrolidone may cause the risk of reproductive and developmental effects by skin contact and dermal absorption.*

11.2 Corrosive and irritant properties : *This material is irritating to eyes ,skin ,mucous membrane and respiratory tract.*

Repeated or prolonged contact may cause dermatitis.

11.3 Acute toxicity :

ROUTE OF ENTRY	<i>N-Methyl-2-Pyrroridone</i>
Oral LD ₅₀ (mg/kg)	3941(rat)
Dermal LD ₅₀ (mg/kg)	8000(rabbit)
Inhalation LD ₅₀ (mg/kg)	No data

11.4 Carcinogenic effects : *N-Methyl-2-Pyrroridone is not classified in IARC , ACGIH and OSHA.*

11.5 Effect level : Lowest observed Adverse effect level(EPA) 50mg/kg/day

12. ECOLOGICAL INFORMATION

Do not wash away into sewers waterway

Biodegradability : N-Methyl-2-Pyrroridone is biodegradable.

13. DISPOSAL CONSIDERATION

- Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in general careful matter as highly flammable liquids .
- *Do not dump into sewers, on the ground or into any body of water.*
- *Please be advised that your country and your region requirements for waste disposal may be more restrictive or otherwise difficult from regulations.*

14. TRANSPORT INFORMATION

TRANSPORT METHOD : *Transport in a cool and dark place with good ventilation.*

15. REGULATORY INFORMATION

Regulatory information with regard to this substances in your country or in your region should be examined by your own responsibility .

16. OTHER INFORMATION

The information herein contained is given in good faith , but no warranty , express or implied , is made.

This information contained herein and , to the best of Hitachi Chemical Company's knowledge and belief , accurate and reliable as of the data issued. It is the users responsibility to determine the suitability of this information for the adoption of necessary safety precautions.

We reserve the right to revise MSDS periodically as new information becomes available.