



SAFETY DATA SHEET

SDS Number: SDS-063A

Version No: 01

Date of Issue: 22 Oct 1997

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

Product Name: **COPON EA 9 HARDENER**
Intended Use: Hardener For Paint
Manufacturer: Nippon Paint (S) Co. Pte Ltd
No. 1 First Lok Yang Road
Jurong Singapore 629728
Telephone/Fax Numbers: (65) 6 265 5355 / (65) 6 264 1603

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Ingredients</u>	<u>CAS No.</u>	<u>%</u>	<u>Hazard Classification</u>
Xylene	1330-20-7	14.5 – 31.9	Xn, Xi, R10, R20, R21, R38, S2, S25
Butan-1-ol	71-36-3	12.0 – 26.5	Xn, R10, R22, R37/38, R41, R67, S7/9, S13, S26, S37/39, S46
2,2'- Iminodi(ethylamine)	111-40-0	2.0 – 4.4	C, R21/22, R34, R43
Diacetone alcohol	123-42-2	2.0 – 4.3	Xi, R36, S24/25
Ethylene Glycol Mono-N-Butyl Ether	111-76-2	1.0 – 2.1	Xn, R20/21/22, R36, R38, S36/37, S46
Ethyl Benzene	100-41-4	0.5 – 1.1	Xn, F, R11, R20, S2, S16, S24/25, S29

3. HAZARDS IDENTIFICATION

HEALTH HAZARDS

- Harmful if swallowed.
- Harmful by inhalation and in contact with skin.
- Irritating to skin. Repeated exposure may cause skin dryness or cracking.
- Vapours may cause drowsiness and dizziness.

PHYSICAL AND CHEMICAL HAZARDS / FIRE AND EXPLOSION HAZARDS

- High hazard. Liquids can release vapours that can readily form flammable mixtures at temperatures at or above the flash point.
- Static discharge. Product can accumulate static charges, which can cause an incendiary electrical discharge.

4. FIRST-AID MEASURES

INHALATION

- Remove to fresh air immediately. If not breathing, administer artificial respiration. If breathing is difficult, give oxygen. Keep at rest. Obtain medical attention immediately.

SKIN CONTACT

- In case of contact, immediately flush skin with large amounts of water and soap while removing contaminated clothing and shoes.
- If irritation persists, get medical attention.

EYE CONTACT

- Immediately flush eyes with large amounts of water for at least 15 minutes or until irritation subsides.
- Obtain medical attention immediately.

INGESTION

- DO NOT induce vomiting unless directed to do so by a medical personnel. Never give anything by mouth to an unconscious person. Keep at rest. Get medical attention immediately.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- Carbon dioxide, foam or dry chemical type recommended.

FIRE FIGHTING PROCEDURES

- Use water spray to cool fire-exposed surfaces and to protect personnel. If a leak or spill has not ignited, use water spray to disperse the vapours and to protect personnel.
- If possible, isolate from heat, electrical equipments, sparks and open flames.
- Use foam or dry chemical type extinguishers to extinguish fire.

SPECIAL FIRE PRECAUTIONS

- Avoid spraying water directly into storage containers.
- Closed containers may explode when exposed to extreme heat.
- Avoid spreading burning liquid with water, isolate liquid.

SPECIAL INFORMATION

- Wear full protective clothing and NIOSH-approved self-contained breathing apparatus.
- Do not allow run-off from fire fighting to enter drains or watercourses.

6. ACCIDENTAL RELEASE MEASURES

PERSON RELATED PRECAUTIONARY MEASURES

- Avoid substance contact with eyes. Do not inhale vapours.
- Ensure supply of fresh air in enclosed rooms.
- Use appropriate protective equipment, e.g. respirators, eye protection, gloves and safety shoes.

ENVIRONMENTAL PROTECTION MEASURES

- Eliminate sources of ignition.
- Keep public away.
- Contain spilled liquid with sand or other non-combustible absorbent materials
- Wash area and prevent runoff into drains and sewerage system.
- Advise authorities if substance has entered a watercourse or sewer or has contaminated soil or vegetation.

PROCEDURE FOR CLEANING

- Clean up all spills immediately.
- Absorb spill with absorbent and inert material, then place in container.
- Disposal in accordance to local regulations.

7. HANDLING AND STORAGE

HANDLING

- Keep out of reach of children.
- Handle containers with care. Open slowly in order to control possible pressure release.
- Do not pressurize containers.

- Do not ingest. Do not breathe in gas/fumes/vapour. Avoid contact with skin and eyes.
- For personal protection, see section 8.
- Use only in areas from which all naked lights and other sources of ignition have been excluded.

STORAGE

- Keep containers tightly closed.
- Containers that are opened should be properly resealed and kept upright to prevent leakage.
- Store in cool, dry and well-ventilated place at temperature between 20°C to 40°C away from heat and sources of ignition.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROL MEASURES

- Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective occupational exposure limits.
- Ensure eyewash stations and safety showers are close to the workstation location.

OCCUPATIONAL EXPOSURE LIMITS

<u>Ingredient</u>	<u>TLV-TWA (ACGIH)</u>		<u>PEL (OSHA)</u>	
	<u>ppm</u>	<u>mg/m³</u>	<u>ppm</u>	<u>mg/m³</u>
Xylene	100	434	434	100
Butan-1-ol	20	-	100	-
2,2'- Iminodi(ethylamine)	1	4.3	-	-
Diacetone alcohol	50	-	50	-
Ethylene Glycol Mono-N-Butyl Ether	25	-	50	-
Ethylbenzene	100	434	100	434

PERSONAL PROTECTION MEASURES

Respiratory Protection:	Use of NIOSH-approved respirators with organic vapour cartridges is recommended.
Hand Protection:	Use of solvent resistance type or chemical resistant type of protective gloves is recommended.
Eye Protection:	Use of safety glasses or goggles with side shields is recommended.
Skin / Body Protection:	Wear chemical resistant clothes and safety shoes when handling product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	Liquid
Odour	:	Aromatic hydrocarbon odour
Specific gravity (Water = 1)	:	0.92 – 0.96
PH	:	Not available
Flash point	:	18 degC
Boiling point	:	Between 117 and 175 degC
Melting point	:	Not available
Auto-ignition temperature	:	230 degC
Explosive limits (in air)	:	Between 1.1 and 12.7 vol%
Vapour density (101.3kPa / air=1)	:	> 1 (Vapour is heavier than air)
Solubility in water	:	Not Miscible

10. STABILITY AND REACTIVITY

STABILITY

- The product is stable under recommended storage and handling conditions. (See section 7)

CONDITIONS TO AVOID

- DO NOT expose to extreme heat, ignition sources or sparks.
- To prevent the creation of flammable concentrations of vapour in air, good natural ventilation, and if necessary, local exhaust ventilation, should be provided. The accumulation of dry over spray, contaminated rags, etc may result in spontaneous combustion. Good housekeeping standard plus the regular and safe removal of waste materials will minimise the risk.

HAZARDOUS DECOMPOSITION PRODUCTS

- When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke and oxides of nitrogen.

MATERIALS TO AVOID (INCOMPATIBILITY)

- Keep away from oxidising agents, strongly alkaline and strongly acidic materials in order to avoid exothermic reactions.

11. TOXICOLOGICAL INFORMATION

There are no data available on the product itself.

ACUTE EFFECT

- Inhalation: Vapour concentrations above the recommended exposure levels may be irritating to the eyes and the respiratory tract, may cause headaches and dizziness, could be anaesthetic and may have other central nervous system effects.
- Skin contact: Causes skin irritation. Frequent or prolonged contact may dry the skin, leading to discomfort and dermatitis.
- Eye contact: May be an eye irritant.
- Ingestion: Harmful if swallowed.

CHRONIC EFFECT

No information available on the product.

TOXICITY DATA

Xylene	LD ₅₀ (Oral, rat) : 4300mg/kg	LD ₅₀ (Dermal, rabbit) : >1700mg/kg
Butan-1-ol	LD ₅₀ (Oral, rat) : 750mg/kg	LD ₅₀ (Dermal, rabbit) : 3400mg/kg
2,2'-Iminodi(ethylamine)	LD ₅₀ (Oral, rat) : 1080mg/kg	-
Diacetone alcohol	LD ₅₀ (Oral, rat) : 4000mg/kg	-
Ethylene Glycol	LD ₅₀ (Oral, rat) : 470mg/kg,	-
Mono-N-Butyl Ether	LC ₅₀ (Inhalation, rat) : 450ppm	
Ethylbenzene	LD ₅₀ (Oral, rat) : 3500mg/kg	LD ₅₀ (Dermal, rabbit) : 17800µL/kg

12. ECOLOGICAL INFORMATION

- Ecotoxicity: May cause long-term adverse effects in the aquatic environment.
- Mobility: Do not allow to enter drains or watercourses.
- Persistence/degradability: Biodegradability:
No evidence of biodegradability.
- Bio-accumulative potential: This product is not expected to bio-accumulate through food chains in the environment.

13. DISPOSAL CONSIDERATIONS

The product should not be allowed to enter drains and watercourses.

Wastes and empty containers should be treated and disposed of in accordance with national and local regulations.

Empty containers and packaging should be taken for recycling, recovery or disposal through a suitably qualified or licensed contractor.

To ensure compliance, consult national and local authorities.

14. TRANSPORT INFORMATION

Transport to be in accordance with ADR/RID for road/rail, IMDG for sea and IATA for Air.

LAND TRANSPORT

Classified as Dangerous Goods by the criteria of the European Agreement concerning the international carriage of Dangerous Goods (ADR) by Road & Regulations concerning the international carriage of Dangerous goods (RID) by Rail.

UN No: 1263
UN Class: Class 3
UN Packaging Group: II
Proper Shipping Name: PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound).

SEA TRANSPORT

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport of Sea.

UN No. 1263
IMDG code: Class 3
UN Packaging Group: II
Proper Shipping Name PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound).

AIR TRANSPORT

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by Air

UN No. : 1263
ICAO/IATA Class: Class 3
UN Packaging Group: II
Proper Shipping Name: PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound).

15. REGULATORY INFORMATION

Classification according to EC Directives (91/155/EEC), Singapore Standard CP98:2003:

HAZARD CLASSIFICATION:

C : Corrosive
F : Highly flammable
Xn : Harmful
Xi : Irritant

RISK PHRASES:

R10	:	Flammable
R11	:	Highly flammable
R20	:	Harmful by inhalation
R21	:	Harmful in contact with skin
R21/22	:	Harmful in contact with skin and if swallowed
R20/21/22	:	Harmful by inhalation, in contact with skin and if swallowed
R22	:	Harmful if swallowed
R34	:	Causes burns
R36	:	Irritating to eyes
R37/38	:	Irritating to respiratory system and skin
R38	:	Irritating to skin
R41	:	Risk of serious damage to eyes
R43	:	May cause sensitisation by skin contact
R67	:	Vapours may cause drowsiness and dizziness

SAFETY PHRASES:

S2	:	Keep out of the reach of children
S7/9	:	Keep container tightly closed and in a well-ventilated place
S13	:	Keep away from food, drink and animal feedingstuffs
S16	:	Explosive when mixed with oxidizing substances
S24/25	:	Avoid contact with skin and eyes
S25	:	Avoid contact with eyes
S26	:	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S29	:	Do not empty into drains
S36/37	:	Wear suitable protective clothing and gloves
S37/39	:	Wear suitable gloves and eye/face protection
S46	:	If swallowed, seek medical advice immediately and show this container or label

16. OTHER INFORMATION

To the best of our knowledge, the information contained herein is accurate. However, the information is provided without any representation or warranty, expressed or implied, regarding its accuracy or completeness. Since the conditions of handling, storage, use and disposal are beyond our control and may be beyond our knowledge, for this and other reasons, we make no guarantee of results and assume no liability for damages incurred by the use of this product. Please be reminded that all chemicals may present unknown health hazards and should be used with caution.

Other reference:

www.osha.gov

www.mom.gov.sg