



MATERIAL SAFETY DATA SHEET

1. Identification of Substance, preparation and company

1.1 Product Code

M238 - Ovencure Ink

1.2 Supplier

Applied Innotech Pte Ltd

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1.3 Date: Nov 2001

2. Composition/ Information On Components

2.1 Hazardous components

CAS-No	Ingredient	Concentration	MAK-Value (ppm)	Symbol	R-phrase (for 100%)
112-07-2	Butylglycol Acetate	5-10%	-	Xn	20/21
108-65-6	2-Methoxy-1-Methylethyl Acetate	1-5%	-	Xi	36
112-15-2	Ethyl Diglycol Acetate	1-5%	-	Xi	36/38
25068-38-6	Reaction Product: Bisphenol A- (Epichlorhydrin)	1-5%	-	Xi	36/38
108-94-1	Cyclohexanone	1-5%	-	Xn	20
1330-20-7	Xylene	1-5%	-	Xn	38
64742-94-5	Solvent Naphtha(Petroleum), Heavy Arom	1-5%	-	Xn	65

3. Hazards Identification

3.1 Hazard designation

Irritant

3.2 NFPA Ratings:

Health: 1
Flammability: 2
Reactivity: 1

4. First Aid Measures

4.1 General

In all cases of doubt or when symptoms persist seek medical attention. Never give anything by mouth to an unconscious person.
Unconsciousness: lateral position- call a physician.

4.2 Inhalation

Take the casualty into fresh air and keep warm irregular breathing/ no breathing: artificial respiration, call a physician.

4.3 Skin contact

Wash away with soap and water and rinse. Do not use solvents or thinners.

4.4 Eye contact

Remove contact lenses, keep eyelids open. Flush with plenty of water (10-15 min). Call a physician.

4.5 Ingestion

Do not induce vomiting- call a physician. Keep a rest.

5. Fire- fighting Measures

5.1 Extinguishing media- suitable

Alcohol resistant foam, CO₂, powders, Water Sprays.



- 5.2 Extinguishing media- unsuitable
Waterjet
- 5.3 Special risk posed by the substance or by the actual preparation, its combustion products or gases discharged. Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard.
- 5.4 Protective equipment
Appropriate breathing apparatus may be required.
- 5.5 Additional information
Cool endangered containers with water in case of fire. Do not allow the quenching water into the sewage system.

6. Accidental Release Measures

- 6.1 Personal precautions
Remove ignition sources. Provide for sufficient ventilation. Refer to protective listed in section 7 and 8.
- 6.2 Environmental precautions
Do not empty into drains. If the product contaminates lakes, rivers or sewages, inform appropriate authorities in accordance with local regulations.
- 6.3 Methods of cleaning up/ collecting
Contain and collect spillage with non- combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations (see section 13). Clean preferably with a detergent: avoid use of solvents.

7. Handling And Storage

- 7.1 Information for safe handling
Prevent the creation of inflammable or explosive concentrations of vapor in air and avoid vapour concentrations higher than the OEL (=Occupational Exposure Limit).
Additionally, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded.
Comply with the health and safety at work laws.
- 7.2 Information about protection against explosions and fires
Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air.
- 7.3 Requirements to be met by storerooms and containers
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
- 7.4 Information about separation of incompatible products
Keep away from oxidizing agents, from strongly alkaline and strongly acid materials.
- 7.5 Further information about storage conditions
Always keep in containers of same material as the original one. See also instructions on the label. Avoid heating and direct sunlight.

8. Exposure Controls And Personal Protection

- 8.1 Additional information about engineering measures.
Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.
- 8.2 Components with critical values that required monitoring at the workplace (exposure limits)

Cyclohexanone	CAS	: 108-94-1
	Specification	: STEL
	Nation	: GB
	Value	: 100.00 ml/ m ³ , 400.00 mg/ m ³
	Valid as per (mm/ yy)	: 01/89
	Specification	: TLV
Xylene	Nation	: GB
	Value	: 25.00 ml/ m ³ , 100.00 mg/ m ³
	Valid as per (mm/ yy)	: 01/89
	CAS	: 1330-20-7



Specification	: STEL
Nation	: GB
Value	: 150.00 ml/ m ³ , 650 mg/ m ³
Valid as per (mm/ yy)	: 01/89
Specification	: TLV
Nation	: GB
Value	: 100.00 ml/ m ³ , 435 mg/ m ³
Valid as per (mm/ yy)	: 01/89

- 8.3 Personal protective equipment
Respiratory equipment
If workplace limits are exceeded, a gas mask approved for this purpose must be worn.
- 8.4 Skin protection
Use protective gloves. After washing hands replace lost skin fat by fat containing skin creams.
- 8.5 Eye protection
Use safety glasses.
- 8.6 Body protection
Personal should wear antistatic clothings made of natural fiber or high temperature resistant synthetic fiber. All parts of the body should be washed after contact.

9. Physical And Chemical Properties

9.1 Image

Form	: Pasty to liquid
Colour	: White
Odour	: Like Solvent

9.2 Relevent safety data

Change in condition			
Boiling point	: (1013 hPa)	145-184°C	literature
Flash point	:	about 43°C	
Ignition temperature	:	about 200-300°C	
Vapour pressure	: (50°C)	< 1000 hPa	
	: (20°C)	about 5 hPa	literature
Density	: (20°C)	1.6 g/cm ³	
Viscosity	: -		
Flow Time	: (20°C)	> 90sec	DIN-Cup 4 mm
Solvent- separation test	: (20°C)	< 3%	

10. Stability And Reactivity

10.1 Conditions to avoid

Stable under recommended storage and handling conditions (See section 7).

10.2 Materials to avoid

Keep away from oxidizing agents. Strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

10.3 Hazardous decomposition products

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

11. Toxicological Information

11.1 Experience on practice

This product is unlikely to harm health, given normal and proper handling and hygienic precautions. Prolonged inhalation of vapours in high concentrations may lead to headache, giddiness and nausea. In case of contact with the product: danger of resorption through the skin, irritation of skin/ mucous membranes.

11.2 Additional toxicological information

The product was classified in toxicological terms on the basis of the results of the calculations procedure outlined within General Directive on Preparations (88/379/EEC).

12. Ecological Information



12.1 Details on animation (persistence/ degradability)
There are no data available on the product itself.

12.2 Additional ecological information
Do not empty into waters or drains.

13. Disposal Considerations

13.1 Product
Recommendation: Do not empty into waters or drains. Can be taken to a suitable incineration centre in observance of local regulations.

13.2 Contaminated packaging
Recommendation: Bring the empty containers to scrap reclamation or reconditioning. Packing drums which have not been emptied properly must be treated as special rubbish.

14. Transport Information

14.1 Land transport ADR/ RID and GGVS/ GGVE
Classification: Class 3, number 31c. Containers with a capacity <= 450 litres are subject only to the regulations of Rn 2314 (remarks under E of Rn 2301). Remarks: GGVS/ GGVE: kein Gut der Klasse3.

14.2 Maritime transport DIDG/ GGVSea
Classification
IMDG-Code: 3.3 IMDG-Page: 3377-1
UN-Number: 1210 MARFOL: -
MFAG-Table: 311 EmS number: 3-05
Technical name: Ink
Packaging Group: III
Tremcard: 3

14.3 Air transport ICAO-TI and IATA- DGR
Classification
ICAO/ IATA Class: 3
UN number: 1210
Technical name: Printing Ink
Packaging Group: III
Tremcard: 3

15. Regulatory Information

15.1 Classification according to EEC directives
Danger symbol and danger designation
Xi irritant
Hazard-determining components of labelling
Reaction Product: Bisphenol A- (Eplchlorhydrin)
R-phrases: R10: Flammable
 R43: May cause sensitization by skin contact
 R36: irritating to eyes
S-phrases: S51: Use only ventilated areas
 S37: Wear suitable gloves
 S26: In case of contact eyes, rinse immediately with plenty of water and seek medical advice
 S24/25: Avoid contact with skin and eyes
Special designation for certain preparations
 92: Contains epoxy constituents. See information supplied by the manufacturer.

15.2 National regulations
Verordnung Über brennbare Flüssigkeiten
VbF-Klasse NU

Emission control act ("TA-Luft")
Class Σ -organic Σ -anorganic Σ -mutagen

II 12.09%
III 9.74%

Water pollution classification



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WGK 1 classification according to the VCL.

16. Other Information

The details in this material safety data sheet satisfy national and EU legislation.

We have no knowledge or control over the individual user's working conditioning however.

The product may not be used for any purpose other than that specified in chapter 1 unless written consent has been obtained. The user is responsible for the observance

Of all required statutory provisions.

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not established a legally valid contractual relationship.