

SAFETY DATA SHEET

PRODUCT NAME : "SUMIRESIN EXCEL" CRM-1076E
MSDS NO. : MSDS-CRM-546
DATE PREPARED : Nov. 29, 2001 according to 93/112

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : "SUMIRESIN EXCEL" CRM-1076E
CHEMICAL NATURE: Preparation. Epoxy Silver paste
MANUFACTURER : SUMITOMO BAKELITE CO., LTD.
Tennoz Parkside Bldg., 5-8, Higashi-Shinagawa 2-chome, Shinagawa-ku,
Tokyo 140-0002, Japan
Phone: 81-3-5462-4037
SUPPLIER : SUMITOMO BAKELITE CO., LTD.
Tennoz Parkside Bldg., 5-8, Higashi-Shinagawa 2-chome, Shinagawa-ku,
Tokyo 140-0002, Japan
Phone: 81-3-5462-4037

EMERGENCY ASSISTANCE : (Please contact any of following sales offices)

NAME & EMERGENCY PHONE NUMBER	ADDRESS
Sumitomo Plastics America, Inc. Phone 408-243-8402 (USA)	900 Lafayette Street, SUITE #510 Santa Clara, CA 95050
Sumitomo Bakelite Singapore Pte, Ltd. Phone 65-755-5550 (Singapore)	1 Senoko South Road, Singapore 758069
Sumitomo Bakelite Europe B. V. Phone 020-691-10-86 (The Netherlands)	New Amsterdam Building Hoekenrode 2, 1102 BR Amsterdam
CHEMTREC Phone 800-424-9300 (USA)	24 hours everyday

2. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	CAS No.	by weight (%)
Silver	7440-22-4	65~85
Epoxy resin A	9003-36-5	5~15
Epoxy resin B	30583-72-3	5~15
t-Butyl phenyl glycidyl ether	3101-60-8	1~5
Phenolic hardener	92-88-6	1~2
Butyl cellosolve acetate	112-07-2	0.5~1.5

Labeling according to EC directives:
Hazardous components: none
Hazard symbol : No symbol and risk phrases are required.
Risk phrases : none
Safety phrase : none

3. HAZARDS IDENTIFICATION

*** EMERGENCY OVERVIEW ***

Silver gray paste and slightly odor.

The vapor irritates the eyes, the skin and the respiratory tract. Combustible liquid.

Epoxy resin is a substrate known to be positive by Ames test.

Foam, carbon dioxide and dry chemicals can be used on fires.

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POTENTIAL HEALTH EFFECTS

EYE : May cause irritating to eyes.
SKIN : May cause skin irritation. May cause harmful if absorbed through the skin.
INGESTION : Small amounts (teaspoonful) swallowed during normal handling operations are not likely to cause injury; swallowing amounts larger than that may cause injury.
INHALATION : Heated product may produce generate vapors. May be harmful for respiratory tract if inhaled.

4.FIRST-AID MEASURES

INHALATION : Immediately remove to the victim from the contamination to fresh air.
SKIN CONTACT : Wash off thoroughly the affected areas under flowing water or shower with soap. If irritation occurs, get medical attention.
EYE CONTACT : Immediately flush eyes with large amounts of water for at 15 minutes. Get medical attention.
INGESTION : Do not induce vomitting. Rinse mouth with plenty of water and immediately give the victim milk or water. Get medical advice.
NOTE TO PHYSICIANS :
Treat symptomatically. Treatment may vary with condition of victim and specifics of incident.

5.FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA:
Use foam, carbon dioxide or dry chemicals
PROTECTION OF FIREFIGHTERS:
Wear full bunker gear inducing positive self-contained breathing apparatus in any closed space.

6.ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTION:
Use personal protective equipments.
ENVIRONMENTAL PRECAUTIONS:
Do not flush into surface water or sanitary sewer system.
METHODS FOR CLEANING UP:
Ventilate spilled area. Remove all sources. Take up with absorbent, inert material (e.g. paper towel, sand) with suitable protective equipment and place in suitable, closed impervious container.

7.HANDLING AND STORAGE

HANDLING : Use with adequate ventilation. Keep away from heat, sparks and open flames. Avoid contact with eyes and skin, and avoid breathing of vapor if generated. Practice good personal hygiene after using this material, especially before eating, drinking smoking or using the toilet.
STORAGE : Keep container tightly closed in a below -15 degC, well-ventilated dark place for quality separate from strong oxidents, and protect from direct sunlight.

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8.EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS:

COMPONENT	EXPOSURE GUIDELINES(mg/m ³)	
	ACGIH(TLV-TWA)	OSHA(PEL)
Silver	0.1(respirable)	0.01
Epoxy resin A	Not listed	Not listed
Epoxy resin B	Not listed	Not listed
t-Butyl phenyl glycidyl ether	Not listed	Not listed
Phenolic hardener	Not listed	Not listed
Butyl cellosolve acetate	Not listed	Not listed

ENGINEERING MEASURES:

Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. Good general ventilation should be sufficient for most conditions. When processing at elevated temperature, provide local exhaust ventilation. Good general ventilation should be sufficient for most conditions.

PERSONAL PROTECTIVE EQUIPMENTS:

- Respiratory protection - Wear an approved respirator to protect from vapors or fume.
Hand protection - Chemical-resistant gloves.
Eye protection - Chemical splash goggles or safety glass with side-shields.
Skin & body protection - Clean clothing, long sleeves, apron, full-face cover or legs-covering clothing as appropriate.

9.PHYSICAL AND CHEMICAL PROPERTIES

- APPEARANCE : Silver gray paste with slightly odor.
pH : No information available.
BOILING POINT : 165~170 degC/14mmHg (as t-Butyl phenyl gyridiyl ether)
191.5 degC (as Butyl cellosolve acetate).
DECOMPOSITION TEMPERATURE : No information available.
FLASH POINT : 259 degC (as Epoxy resin A)
210 degC (as Epoxy resin B)
71 degC (as Butyl cellosolve acetate)
AUTOIGNITION TEMPERATURE : Not applicable.
EXPLOSION PROPERTIES : Not applicable.
VAPOR PRESSURE : 0.31 hPa (as Butyl cellosolve acetate).
VAPOR DENSITY : 5.5 (Air=1, as Butyl cellosolve acetate).
DENSITY : 3.0~4.0
SOLUBILITY : Moderate (1.7 g/100ml at 200 degC, as Butyl cellosolve acetate) in water.

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10. STABILITY AND REACTIVITY

STABILITY : Stable under recommended storage conditions.
CONDITIONS TO AVOID : Keep away from heat, open flame, sparks and sunlight for quality.
MATERIALS TO AVOID : Oxidizing agents or base. Butyl cellosolve acetate reacts with strong oxidants causing fire and explosion hazard.
HAZARDOUS DECOMPOSITION PRODUCTS :
Mainly: Carbon oxide
Slightly: Carbon monoxide and various hydrocarbons

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY :	Epoxy resin A ----	orl-rat LD50:	>2,000 mg/kg
		skin-rat LD50:	>400 mg/kg
	t-Butyl phenyl glycidyl ether ---	orl-rat LD50:	3.73 ml/kg
	Phenolic hardener ---	orl-rat LD50:	9,850 mg/kg
	Butyl cellosolve acetate ---	orl-rat LD50:	2,400 mg/kg
		skin-rbt LD50:	1,500 mg/kg

LOCAL EFFECTS : Irritating to eyes and skin.
SENSITIZATION : May cause sensitization by skin contact.
CHRONIC TOXICITY: Potential carcinogen
IARC : Not listed
NTP : Not listed
OSHA : Not regulated

12. ECOLOGICAL INFORMATION

MOBILITY : No data is available on the product itself.
ECOTOXICITY : May cause long-term adverse effects in the aquatic environment.

13. DISPOSAL CONSIDERATION

WASTE FROM RESIDUES :
Can burn in a chemical incinerator equipped with an afterburner and scrubber in compliance with government or local disposal regulations, also contaminated packagings do so.

14. TRANSPORT INFORMATION

Not a hazardous material for D.O.T. (Department Of Transportation) shipping.
Not dangerous by any mode of international transport.
UN No. : None assigned.

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15. REGULATORY INFORMATION

TSCA(TOXIC SUBSTANCES CONTROL LAW):

The ingredients of this product are all on the 8(b) inventory list.

EINECS(EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCES)

This product complies with the provisions of the European Inventory.

EINECS No.	Silver:	231-131-3
	t-Butyl phenyl glycidyl ether:	221-453-2
	Phenolic hardener:	202-200-5
	Butyl cellosolve acetate:	203-933-3
NLP No.	Epoxy resin A:	500-006-8
	Epoxy resin B:	500-070-7

Labeling according to EC Directives:

Hazard symbol:	No symbol and risk phrases are required
Risk phrases:	none
Safety phrase:	none

16. OTHER INFORMATION

DISCLAIMER : The information presented herein was prepared for your reference to be best of our knowledge. It is given in good faith but no warranty expressed or implied is made.

DATA PREPARED BY :

N. OSUGA, QA MANAGER
UTSUNOMIYA PLANT
SUMITOMO BAKELITE CO., LTD.