

PRODUCT NAME: **JSR OPSTAR PJ3009 (R&D use only)**

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **JSR OPSTAR PJ3009 (R&D use only)**
General Use: Waveguide material
Product Description: Acrylic resin solution

MANUFACTURER: JSR Corporation
5-6-10, Tsukiji, Chuo-ku,
Tokyo 104, Japan

EMERGENCY TELEPHONE NUMBERS:
Telephone: +81-3-5565-6600
9:15-17:45 Jpn M-F
Facsimile: +81-3-5565-6641
24Hrs Every day

2. COMPOSITION / INFORMATION ON INGREDIENTS

	%	CAS #
Acrylic resin	25-35	Proprietary
Acrylic monomer	10-20	Proprietary
Photo initiator	0.1-2	Proprietary
Coupling agent	0.1-2	Proprietary
Ethyl lactate (EL)	45-55	97-64-3

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Transparent liquid with a mild odor.

POTENTIAL HEALTH EFFECTS

INHALATION:

Vapors may cause irritating to nose and respiratory tract.

EYE CONTACT:

Eye contact may cause irritation.

SKIN CONTACT:

Prolonged and repeated contact with skin may cause irritation and dermatitis.

INGESTION:

Swallowing may nauseate and cause pain in esophagus and stomach.

CARCINOGENICITY:

Not known to be carcinogenic.

NTP? No IARC MONOGRAPHS? No OSHA Regulated? No

NFPA RATINGS (SCALE 0 - 4): HEALTH=2 FIRE=2 REACTIVITY=0

4. FIRST AID MEASURES

INHALATION:

Remove exposed person to fresh air, perform artificial respiration if necessary.
Call physician.

EYE CONTACT:

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Immediately flush eyes with plenty of water at least 15 min. Call physician.

SKIN CONTACT:

Immediately wash skin with soap and plenty of water.

INGESTION:

Give large quantities of water; contact a poison center and have MSDS information available.

5.FIRE-FIGHTING MEASURES

GENERAL HAZARD:

Flammable liquid. May release vapors that form flammable mixtures when temperatures are at or above the flash point. Toxic gases will form upon combustion.

EXTINGUISHING MEDIA:

Carbon dioxide, alcohol foam, dry chemical.

SPECIAL FIRE FIGHTING PROCEDURES:

Firefighters should wear self-contained breathing apparatus and protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

None.

HAZARDOUS COMBUSTION PRODUCTS:

Smoke, fumes, toxic gas and/or carbon monoxide.

6. ACCIDENTAL RELEASE MEASURES

GENERAL:

Provide maximum ventilation. Wear suitable protective equipment. Small spill should be flushed with large quantities of water. Large spill should be collected for disposal.

LAND SPILL:

Dike or absorb with inert absorbent material such as sand or saw-dust and transfer to container for disposal.

WATER SPILL:

Remove from surface by skimming or with suitable absorbents.

7.HANDLING AND STORAGE

WARNING:

Flammable solvent mixture. Avoid heat, sunlight, ignition sources.

PRECAUTIONS:

Handle with care. Open only under well ventilated conditions. Loosen closure cautiously before opening. When using this substance: (a) avoid breathing the substance; (b) avoid ingestion;(c) use respiratory protection when in dust or mist form. Wear chemical goggles, resistant gloves and protective clothing to prevent contact. Wash thoroughly after handling.

PRECAUTIONS:

Store in dry cool area.

STORAGE TEMPERATURE:

Bellow 30° C

STORAGE PRESSURE:

Atmospheric

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:

The use of local exhaust ventilation is recommended to control emissions near the source. Laboratory samples should be handled in a fumehood. Provide mechanical ventilation of confined spaces. Use explosion-proof ventilation equipment.

PERSONAL PROTECTION

RESPIRATORY PROTECTION:

Under conditions of frequent use or heavy exposure, Respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use.

Any chemical cartridge respirator with organic vapor cartridge(s).

Any chemical cartridge respirator with a full facepiece and organic Vapor cartridge(s).

Any air-purifying respirator with a full facepiece and an organic Vapor canister.

For Unknown Concentrations or Immediately Dangerous to Life or Health.

Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.

Any self-contained breathing apparatus with a full facepiece.

SKIN PROTECTION:

Wear impermeable gloves and clothing during activities where there is potential for direct skin contact with chemical.

EYE PROTECTION:

Wear primary eye protection such as splash resistant safety goggles with a secondary protection faceshield. Provide an emergency eye wash station and quick drench shower in the immediate work area.

OSHA HAZARDS (29 CFR 1910.1200)	Exposure Limits 8 hrs. TWA(ppm)	OSHA PEL	ACGIH TLV
Acrylic resin	Not-established	Not-established	Not-established
Acrylic monomer	Not-established	Not-established	Not-established
Photo initiator	Not-established	Not-established	Not-established
Coupling agent	Not-established	Not-established	Not-established
Ethyl lactate (EL)	Not-established	Not-established	Not-established

9. PHYSICAL AND CHEMICAL PROPERTIES

Vapor Pressure	: Not available
Specific Gravity	: Not available
Solubility in water	: Moderate
Boiling Point	: Not available
Flashpoint and Method	: 48° C (estimated)
Flammable Limits	: Not available
Autoignition Temperature	: Not available
Viscosity	: 1500mPa·s at 25
Refractive index(n)	: 1.516@824nm at 25

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10. STABILITY AND REACTIVITY

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID:

Strong oxidizing agents, strong acids, strong bases and strong reducing agents.

HAZARDOUS DECOMPOSITION:

This material is stable under recommended storage and handling conditions.

HAZARDOUS POLYMERIZATION:

May not occur.

11. TOXICOLOGICAL INFORMATION

SOLVENT (EL)

ACUTE TOXICITY

Oral	LD50	rat	5,000 mg/kg
Oral	LD50	mouse	2,500 mg/kg
Acrylic resin	No information available		
Acrylic monomer	No information available		
Photo initiator	No information available		
Coupling agent	No information available		
	ACUTE TOXICITY		
Oral	LD50	rat	23,000 mg/kg
AMES Test:	Moderate positive		

12. ECOLOGICAL INFORMATION

No information available

13. DISPOSAL CONSIDERATION

The user of this product must properly characterize the waste generated from the use of this product in accordance with all applicable federal, state and/or local laws and regulations in order to determine the proper disposal of the waste in accordance with all applicable federal, state and/or local laws and regulations.

14. TRANSPORT INFORMATION

TRANSPORTATION AND HAZARDOUS MATERIALS DESCRIPTION:

Package and transport in accordance with Department of Transportation (DOT) and other regulatory agency requirements.

U. S. DOT PROPER SHIPPING NAME:	Resin solution
IATA PROPER SHIPPING NAME:	Resin solution, 3, UN1866, III
IDENTIFICATION NUMBER:	UN 1866

15. REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200: Ensure that the hazards associated with this product are transmitted to employees by means of a hazard communications program, in accordance with federal and state Occupational Safety and Health Administration (OSHA) regulations.

CERCLA/SUPERFUND HAZARD CATEGORY: At the time of this document's

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preparation, none of the ingredients of this product were listed in 40 CFR 302.4. The list should be periodically checked for applicable updates.

SARA 313 INFORMATION: At the time of this document's preparation, none of the ingredients of this product were listed in 40 CFR 372. The list should be periodically checked for applicable updates.

Methyl alcohol was listed in 40 CFR 372.

TOXIC SUBSTANCES CONTROL ACT (TSCA): Most of the compounds in this product are on the TSCA Inventory. Some of the components in the solution are not on TSCA lists (**R & D use only**). In accordance with federal regulations, this material shall be used only to manufacture product described in General Use. In particular, this material shall not be distributed to any person, other than for disposal. All users must utilize the worker protection measures and environmental release controls specified in this Material Safety Data Sheet and in EPA and OSHA regulations. Acknowledgment of receipt of this Material Safety Data Sheet shall be considered acknowledgment that the user will comply with these requirements.

CALIFORNIA PROPOSITION 65: At the time of this document's preparation, none of the ingredients of this product were included on the California Proposition 65 list of chemicals known to cause cancer or reproductive toxicity. The list should periodically be checked for applicable updates.

16. OTHER INFORMATION

REVISION SUMMARY

October 6, 2003

Original MSDS established.

To the best of our knowledge, the information contained herein is accurate. However, neither JSR Corporation nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution.

Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.