

**MSDS
MATERIAL SAFETY DATA SHEET**

I. PRODUCT IDENTIFICATION

PRODUCT NAME: Natural Copolymer Acetal (POM)
Black Copolymer Acetal (POM)

PHONE NUMBERS:
PRODUCT INFORMATION: 1-800-667-0999
CHEMTREC: 1-800-424-9300

II. COMPOSITION/INFORMATION ON INGREDIENTS

<u>INGREDIENT NAME</u>	<u>CAS NUMBER</u>	<u>WEIGHT %</u>
Acetal Polymer (Polyoxymethylene Co-Polymer)	24969-26-4	95 - 100
Color Concentrate (Black only)	1333-86-4	5.0

SUPPLIER NOTIFICATION:
This product is not known to contain toxic chemicals listed under section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40CFR part 372.

III. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Stock shape may be rods or plate of different sizes. White or black

ODOR: Slight odor

PERCENT VOLATILES: Negligible

MELTING POINT: 168°C (335°F)

SOLUBILITY IN WATER: Insoluble

SPECIFIC GRAVITY: 1.35 – 1.45

IV. STABILITY AND REACTIVITY

STABILITY: Stable

CONDITIONS TO AVOID: Heating above 230°C (446°F) forms formaldehyde

MATERIALS TO AVOID:
Strong acids and bases (decomposes forming formaldehyde) and strong oxidizing agents. At melt temperatures, Acetal resins are incompatible with halogenated polymers such as PVC and PVDC and any elastomers containing halogenated polymers. Even small amounts of such contaminants can cause sudden and spontaneous formaldehyde gas formations. Workplace fume concentrations well above threshold levels and unsafe pressurization of processing equipment can result.

V. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION:

Local exhaust at processing equipment to keep particulates below 15 mg/m³, the OSHA limits for nuisance dusts. Grinding and machining of parts should be reviewed to assure that particulate levels are kept below recommended standards. Formaldehyde fumes may be released during fabrication.

PROTECTIVE EQUIPMENT

- SKIN:** Protective gloves are required when handling hot polymer. Long sleeve cotton shirt and long pants when handling molten polymer.
- EYE:** Safety glasses are recommended to prevent particulate from entering eyes while grinding or machining.
- RESPIRATOR:** None under normal processing, if ventilation is adequate. If formaldehyde concentration is above 1 ppm (temperatures exceed 230°C/446°F) a properly fitted NIOSH approved respirator is required.

EXPOSURE GUIDELINES:

Grinding and machining of parts should be reviewed to assure that particulate levels are kept below recommended standards

INGREDIENT	AGENCY	VALUE
Particulates	PEL (OSHA)	15 mg/m ³ total dust 5 mg/m ³ respirable dust
Formaldehyde	OSHA PEL ACGIH TLV	0.75 ppm/8 hrs. TWA; 2 ppm STEL 0.3 ppm ceiling; 2 ppm STEL

VI. HEALTH HAZARDS IDENTIFICATION

ACUTE OR IMMEDIATE EFFECTS

- SKIN:** Molten Acetal may cause thermal burns
- EYES:** Contact with powder or dust may cause mechanical irritation
- INHALATION:** Shapes are not considered an inhalation hazard
- INGESTION:** Not a probable route of exposure

LONG TERM DELAYED EFFECTS: None known

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None known

CHRONIC EFFECTS:

There are no known effects from exposure to Acetal itself. Significant skin permeation and systemic toxicity after contact appears unlikely. There are inconclusive or unverified reports of human sensitization.

VI. HEALTH HAZARDS IDENTIFICATION - continued

NOTE:

Acetal stock shapes melt and become unusable for their intended purpose at temperature above 175°C (350°F). If heated to temperatures over 230°C (446°F), the polymer releases formaldehyde. Formaldehyde may cause skin, eye and respiratory irritation and allergic reactions.

MEDICAL RESTRICTIONS:

There are no known human health effects aggravated by exposure to his product.

CHRONIC/CARCINOGENICITY:

Chronic inhalation studies in animals have shown that formaldehyde causes nasal cancer in rats. The international agency for research on cancer has classified formaldehyde as a carcinogen in group 2a, and the national toxicology program included formaldehyde in its annual report on carcinogens.

VII. FIRST AID MEASURES

- SKIN:** If molten polymer contacts skin, cool rapidly with cold water. Do not attempt to peel polymer from skin. Obtain medical attention for thermal burns.
- EYES:** In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. Consult a physician if symptoms persist.
- INHALATION:** If exposure to fumes from overheating, move to fresh air. Consult a physician if symptoms persist.

VIII. TOXICOLOGICAL INFORMATION

CHRONIC TOXICITY: Harmless

MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE:

No information available

IX. FIRE FIGHTING MEASURES

AUTOIGNITION TEMPERATURE:

320-340°C (608-644°F). Method ASTM D1929

CONDITIONS OF FLAMMABILITY:

Burns with an invisible flame

HAZARDOUS PRODUCTS OF COMBUSTION:

Hazardous combustion products may include intense heat, dense black smoke, carbon monoxide and formaldehyde

EXTINGUISHING MEDIA:

Water spray, foam, dry chemical and/or CO₂

IX. FIRE FIGHTING MEASURES - continued

SPECIAL FIRE FIGHTING INSTRUCTIONS/PRECAUTIONS:

Fire fighters and others exposed to products of combustion should wear full protective clothing including self-contained, breathing apparatus. Fire fighting equipment should be thoroughly decontaminated after use.

X. ACCIDENTAL RELEASE MEASURES

SPILL OR RELEASE: Clean up by vacuuming or sweeping to prevent falls

XI. HANDLING AND STORAGE

HANDLING: Open containers only in well-ventilated area

STORAGE: Dry storage. Keep containers closed to prevent contamination

XII. DISPOSAL CONSIDERATIONS

DISPOSAL: Preferred options for disposal are: recycling, incineration with energy recover, and landfill. Treatment and disposal must be in accordance with federal, state, provincial and local regulations.

XIII. DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

The information presented in the Material Safety Data Sheet is based on data believed to be accurate as of the date this Material Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.