

MATERIAL SAFETY DATA SHEET

TKG® AL (POM C)

Section 1. COMPANY AND PRODUCT IDENTIFICATION

Name: TRAUD VILLARROYA HNOS. S.L.
Address: C/ Isabel de Santo Domingo 35
50014 Zaragoza
SPAIN
E-mail: info@traidvillarroya.com
Website: www.traidvillarroya.com

Material Name: TKG® AL
Acetal-Copolymer

Section 2. COMPOSITION / INFORMATION ON COMPONENTS

MATERIAL	CAS Number	%
Acetal Polymer (Polyoxymethylene Co-Polymer)	24969-26-4	95 - 100

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.

Section 3. HAZARDS IDENTIFICATION

Emergency Overview: 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.

Eye Contact: Contact with powder or dust may cause mechanical irritation.

Skin Contact: Molten Acetal may cause thermal burns.

Inhalation: Shapes are not considered an inhalation hazard.

Ingestion: Not a probable route of exposure.

Medical Conditions Aggravated by Long-Term 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.

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.

Section 4. FIRST AID MEASURES

Eye contact: In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. Consult a physician if symptoms persist.

Skin contact: If molten polymer contacts skin, cool rapidly with cold water. Do not attempt to peel polymer from skin. Obtain medical attention for thermal burns.

Inhalation: If exposure to fumes from overheating, move to fresh air. Consult a physician if symptoms persist.

Notice: To the best of our knowledge, the information contained in this Material Safety Data Sheet is accurate. However, neither TRAUD VILLARROYA HNOS. S.L. nor any of its representatives 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. The most recent update can be found at www.traidvillarroya.com.

MATERIAL SAFETY DATA SHEET

TKG[®] AL (POM C)

Section 5. FIRE FIGHTING MEASURES

- Autoignition temperature:** 320-340°C (608-644°F). Method ASTM D1929.
- Conditions of flammability:** Burns with an invisible flame.
- Extinguishing Media:** Water spray, foam, dry chemical and/or CO₂.
- Hazardous Combustion Products:** Hazardous combustion products may include intense heat, dense black smoke, carbon monoxide and formaldehyde.
- Fire-Fighting Instructions:** 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.

Section 6. ACCIDENTAL RELEASE MEASURES

- Spill Response:** Clean up by vacuuming or sweeping to prevent falls.

Section 7. HANDLING AND STORAGE

- Handling Precautions:** Open containers only in well-ventilated area.
- Storage Requirements:** Dry storage. Keep containers closed to prevent contamination.

Section 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- Eye Protection:** Safety glasses are recommended to prevent particulate from entering eyes while grinding or machining.
- Skin Protection:** Protective gloves are required when handling hot polymer. Long sleeve cotton shirt and long pants when handling molten polymer.
- 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.
- Respiratory Protection:** 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.
- Safety Stations:** Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.
- Other Precautionary Information:** 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	0.75 ppm/8 hrs. TWA; 2 ppm STEL ACGIH TLV 0.3 ppm ceiling; 2 ppm STEL

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Notice: To the best of our knowledge, the information contained in this Material Safety Data Sheet is accurate. However, neither TRAIID VILLARROYA HNOS. S.L. nor any of its representatives 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. The most recent update can be found at www.traidvillarroya.com.

MATERIAL SAFETY DATA SHEET

TKG[®] AL (POM C)

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)

Specific Gravity: 1.35 – 1.45

Water Solubility: Insoluble

Section 10. 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.

Section 11. TOXICOLOGICAL INFORMATION

Toxicity Data: None available.

Section 12. ECOLOGICAL INFORMATION

Environmental Fate and Effects: No data has been established for this product.

Section 13. 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.

Section 14. OTHER INFORMATION

To the best of our knowledge, the information contained in this Material Safety Data Sheet is accurate. However, neither TRAIID VILLARROYA HNOS. S.L. nor any of its representatives 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.

Notice: To the best of our knowledge, the information contained in this Material Safety Data Sheet is accurate. However, neither TRAIID VILLARROYA HNOS. S.L. nor any of its representatives 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. The most recent update can be found at www.traidvillarroya.com.