

MMA SYSTEM-MMA CLEAR TOPCOAT

Manufacturer/ Multi-Tech Products
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PRODUCT NAME: MMA CLEAR TOPCOAT

COMPONENTS

<u>Material</u>	<u>CAS Number</u>	<u>%</u>
Acrylic Polymer		
Alumina Trihydrate	21645-51-2	45
*Methyl Metacrylate Monomer	80-62-6	

*Regulated as a Toxic Chemical under Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

PHYSICAL DATA

Boiling Point: 101 deg C ((214) deg F)
 At 760 mm Hg. MMA Monomer
 Vapor Pressure: 29 mm Hg at 20 deg C (68 deg F)
 Vapor Density: 3.42 (Air = 1.0) @ 16 deg C (60 deg F)
 % Volatiles: 40 WT % at 20 deg C (68 deg F)
 Evaporation Rate: 3.0 (Butyl Acetate = 1.0)
 Water Solubility: Nil
 Form: Syrupy liquid
 Specific Gravity: 1.22 at 20 deg C (68 deg F)

HAZARDOUS REACTIVITY

Instability: Stable at normal temperatures and storage conditions. Avoid heat and ignition sources.
 Incompatibility: Incompatible with amines and peroxides.
 Decomposition: Carbon monoxide, carbon dioxide, smoke.
 Polymerization: Polymerization can occur.
 Conditions leading to polymerization are abnormal temperatures, direct sunlight or oxidizing agents.

FIRE AND EXPLOSION DATA

Flash Point: 13 deg C (55 deg F)
 Method: TOC
 Flammable Limits in Air, % by Volume
 LEL: 2.1
 UEL: 12.5

Fire and Explosion Hazards

Flammable liquid. Vapor forms explosive mixture with air. Vapors or gases may travel considerable distances to ignition source and flash back.

Extinguishing Media

Use chemical foams for extinguishing flaming pools of material.

Special Fire Fighting Instructions

Evacuate personnel to a safe area. Wear self-contained breathing apparatus. Wear full protective equipment. Use water spray.

HEALTH HAZARD INFORMATION**ACRYLIC POLYMER**

Repeated or prolonged liquid contact may cause skin irritation.

METHYL METHACRYLATE

Methyl Methacrylate is a skin, nose and throat irritant and can cause allergic skin rashes. Skin permeation may occur. It is a severe eye irritant and can cause tearing, blurring of vision and possible corneal damage.
 Inhalation can cause headache, nausea, weakness and lung irritation with cough, and shortness of breath. Temporary sensory nervous system effects such as coldness or numbness of the extremities can occur, as well as abnormal kidney function test and temporary elevation of blood pressure.

Animal Data

Inhalation 4 hour LC50: 7,093 ppm in rats
 Skin absorption LD50: > 35,500 mg/kg in rabbits
 Oral LD50: 7,900 mg/kg in rats

The compound is a skin irritant, is a moderate eye irritant, and is a skin sensitizer in animals.

Inhalation

Toxicity described in animals from single exposures to levels primarily in the range of 8-100 times the TLV by inhalation include upper respiratory and gastrointestinal irritation, lung damage, nervous system effects, and blood in the urine. Toxicity described in animals from repeated exposures to levels in the range of 5-100 times the TLV by inhalation include lung damage, pulmonary irritation liver changes, eye irritation, nasal tissue changes, incoordination and upper respiratory irritation. Toxicity described in animals from long term repeated exposures by inhalation include Inflammation of the nasal cavity and changes in Nasal sensory cells, and slight decrease in body weight.

Ingestion

Toxicity described in animals single exposures by ingestion near the LD50 include blood in the urine and liver changes. Toxicity described in animals from repeated exposures by ingestion include liver and kidney effects with altered function in both organs, peeling of the skin and impaired locomotor activity and learning. Toxicity described in animals from long term exposures by ingestion include decreased body weight, increased relative kidney weight at high dose levels.

Skin Contact

Repeated dermal exposure resulted in peeling of the skin and localized neuromuscular changes indicated by abnormal muscle responses to nerve stimulation.
 Animal testing indicates that this compound does not have carcinogenic effects. Development toxicity has been observed in tests with animals, but in most cases it was accompanied by maternal toxicity. In one instance reduced fetal weights were

The compound does produce genetic damage in mammalian cell cultures. It does not produce heritable genetic damage in animals.

Human Health Effects

Skin contact may include skin irritation with rash; or allergic skin rashes.

Eye contact may include severe eye irritation with tearing, or blurring of vision, or possible corneal damage.

Inhalation may include irritation of the upper Respiratory passages; nonspecific discomfort, such as nausea, headache, or weakness; temporary lung irritation effects with cough, difficulty breathing, or shortness of breath, temporary sensory nervous system effects such as coldness or numbness of extremities; abnormal kidney function as detected by laboratory tests; or temporary elevation of blood pressure. Evidence from animal tests suggests that skin permeation may occur. The compound by cause skin sensitization in susceptible humans. Individuals with preexisting diseases of the lungs May have increased susceptibility to the toxicity of excessive exposures.

ALUMINA TRIHYDRATE

No adverse effects are expected as the compound has been used safely as an antacid in humans without significant effects for a long period of time. Chronic overuse may interfere with phosphate absorption.

Inhalation

Guinea pigs exposed by long term, repeated Inhalation exhibited no evidence of injurious effects but did show progressive accumulation of aluminum in the lungs.

Ingestion

Toxicity described in animals from repeated ingestion include growth impairment, and bone changes due to phosphate depletion, but ingestion of phosphate eliminates these changes.

CARCINOGENICITY

None of the components in this material is listed By IARC, NTP, OSHA, or ACGIH as a carcinogen.

APPLICABLE EXPOSURE LIMITS

METHYL METHACRYLATE MONOMER
 AEL * : None Established
 TLV (ACGIH): 100ppm, 410mg/m³-8 Hr TWA
 PEL (OSHA): 100PPM, 410mg/m³-8 Hr TWA

*AEL is an Industry Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

SAFETY PRECAUTIONS

Do not breathe vapor or mist. Do not get in eyes. Avoid contact with skin. Avoid contact with clothing. Wash thoroughly after handling. Wash clothing after use.

FIRST AID

Inhalation

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is

observed in the absence of maternal toxicity.

Skin Contact

In case of contact, immediately wash skin with soap and water. Wash contaminated clothing before reuse.

Eye Contact

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

Ingestion

If swallowed, do not induce vomiting. Immediately give two glasses of water. Never give anything by mouth to an unconscious person. Call a physician.

Notes to Physician

Activated charcoal slurry may be administered. To prepare activated charcoal slurry, suspend 50 grams activated charcoal in 400ml water and mix thoroughly. Administer 5ml/kg, or 350ml for an average adult.

PROTECTION INFORMATION

Generally Applicable Control Measures and Precautions

Keep away from heat, sparks and flames. Keep container in a cool place. Keep container in a dark place. Keep container tightly closed. Use of non-sparking and explosion-proof equipment may be necessary depending on type of operation. Do not consume food, drink or tobacco in the areas where they may become become contaminated with this material. Use local exhaust ventilation to keep employee exposure to airborne concentrations below recommended exposure limits.

Personal Protective Equipment

Eye/Face : Coverall chemical splash goggles.
 Additional : Polyethylene apron.
 Protective Gloves : Disposable polyethylene.

DISPOSAL INFORMATION

SPILL, LEAK OR RELEASE

NOTE: Review FIRE AND EXPLOSION HAZARDS and SAFETY PRECAUTIONS before proceeding with clean up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up. Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus. Remove source of heat, sparks, flame, impact, friction or electricity. Dike spill. Prevent liquid from entering sewers, waterways or low areas. Soak up with sawdust, sand, oil dry or other absorbent material. Shovel or sweep up.

WASTE DISPOSAL

Cleaned-up material is a RCRA Hazardous Waste. Treatment, storage, transportation and disposal disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Do not flush to surface water or sanitary sewer system. Do not incinerate in closed containers. RCRA hazardous waster number is D001.

SHIPPING INFORMATION

DOT

Proper shipping name: Not regulated.

difficult, give oxygen. Call a physician.

STORAGE CONDITIONS

Store in well ventilated area. Store in cool place.
Store in dark place. Keep container tightly closed. Do not store or consume food, drink or tobacco in areas where they may become contaminated with this material.
Do not store above 80 degrees F or below 40 degrees F.

TITLE III HAZARD CLASSIFICATIONS

Acute: Yes
Chronic: Yes
Fire: Yes
Reactivity: Yes
Pressure: Yes

ADDITIONAL INFORMATION AND REFERENCES

NA = Not Applicable
NE = Not Established

STATE RIGHT-TO-KNOW LAWS

No substances on the state hazardous substances list, for the states indicated below, are used in the manufacture of products on this Material Safety Data Sheet, with the exceptions indicated. While we do not specifically analyze these products, or the raw materials used in their manufacture, for substances lists, to the best of our knowledge the products on this Material Safety Data Sheet contain no such substances except for those specifically listed below:

SUBSTANCES ON THE PENNSYLVANIA HAZARDOUS SUBSTANCES LIST PRESENT AT A CONCENTRATION OF 1% OR MORE (0.1% FOR SPECIAL HAZARDOUS SUBSTANCES): Methyl Methacrylate.

WARNING: SUBSTANCES KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER: None known.

WARNING: SUBSTANCES KNOWN TO THE STATE OF CALIFORNIA TO CAUSE BIRHT DEFECTS OR OTHER REPRODUCTIVE HARM: None known.

SUBSTANCES ON THE NEW JERSEY WORKPLACE HAZARDOUS SUBSTANCE LIST AT A CONCENTRATION OF 1% OR MORE (0.1% FOR SUBSTANCES IDENTIFIED AS CARCINOGENS, MUTAGENS OR TERATOGES):
Methyl Methacrylate.

The data in this Material Safety Data sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.