



MATERIAL SAFETY DATA SHEET

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: BUEHLER CASTOLITE RESIN, CASTOGLAS RESIN
 IDENTIFICATION NUMBER: 20-8120-001,20-8120-002,20-8120-009, 20-8124-002,20-8124-009
 PRODUCT USE/CLASS: Casting product

SUPPLIER:
 BUEHLER, a division of Illinois Tool Works Inc.
 41 WAUKEGAN ROAD
 LAKE BLUFF, IL 60044

EMERGENCY: 800-424-9300
 INFORMATION: 847-295-6500
 PREPARER: Technical Department, 847-295-6500
 PREPARE DATE:

SECTION 2 – COMPOSITION/INFORMATION ON INGREDIENTS

ITEM	CHEMICAL NAME	CAS NUMBER	WT/WT%			
01	Styrene	100-42-5	30.0-60.0			
ITEM	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL – CEILING	COMPANY TLV-TWA	SKIN
01	50 ppm	100 ppm	50 ppm	200 ppm	N.E.	YES

(SEE SECTION 16 FOR ABBREVIATION LEGEND)

SECTION 3 – HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Harmful if inhaled or swallowed. Flammable liquid and vapor. Inhalation of vapors may cause respiratory irritation and intoxication. Suspect cancer hazard. May cause skin and eye irritation.

ACUTE EFFECTS – EYE CONTACT: Liquid, aerosols and vapors of this product are irritating and can cause pain, tearing, reddening and swelling accompanied by a stinging sensation and/or a feeling like that of fine dust in the eyes.

ACUTE EFFECTS - SKIN CONTACT: Substance may cause slight skin irritation.

ACUTE EFFECTS – INHALATION: Liquid aspirated into lungs may cause chemical pneumonitis. High concentrations in immediate area can displace oxygen and can cause dizziness, unconsciousness, and even death with longer exposure.

ACUTE EFFECTS - INGESTION: This material may be harmful or fatal if swallowed. May cause nausea and vomiting.

CHRONIC OVEREXPOSURE EFFECTS: *Preexisting pulmonary and dermatological disorders may be aggravated by exposure to hazardous components. *Studies suggest that chronic overexposure and/or systemic toxicity effects are targeted at the liver and kidneys. *In laboratory tests, animals exposed to high levels of solvent during pregnancy experienced fetal malformations and fetotoxicity. *Styrene has been listed as a "possible" carcinogen by IARC. Evidence of carcinogenicity has not been seen in the epidemiology of workers exposed to styrene. Repeated excessive exposures may cause central nervous system effects. Styrene is reported to have caused hearing loss in animals exposed to levels 16 x and higher. The significance of this finding to humans is unknown.

OTHER INFORMATION: Not Applicable.

PRIMARY ROUTE(S) OF ENTRY: SKIN CONTACT, INHALATION, EYE CONTACT

SECTION 4 – FIRST AID MEASURES

EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes. Get immediate medical attention.

SKIN CONTACT: Remove contaminated clothing. Wash skin with soap and water. Get medical attention if irritation develops or persists.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

INGESTION: If swallowed, do NOT induce vomiting. Give victim a glass of water or milk. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

NOTES TO PHYSICIAN: Not Applicable.

SECTION 5 – FIRE FIGHTING MEASURES

FLASH POINT: 88 °F (PENSKY-MARTENS C.C.)

LOWER EXPLOSIVE LIMIT: 1.1 %

UPPER EXPLOSIVE LIMIT: 6.1 %

AUTOIGNITION TEMPERATURE: No data

EXTINGUISHING MEDIA: ALCOHOL FOAM, CO₂, DRY CHEMICAL, FOAM

UNUSUAL FIRE AND EXPLOSION HAZARDS: Closed containers may rupture or explode (due to pressure build-up) when exposed to extreme heat. Vapors are heavier than air, and may travel along the ground to be reignited at locations distant from the source; flashback of flame may occur. Store full and empty containers away from heat, sparks, flame, and other sources of ignition. Observe all labeled precautions until containers are cleaned and/or reconditioned. Irritating and/or toxic gases or fumes may be generated by thermal decomposition or combustion.

SPECIAL FIREFIGHTING PROCEDURES: Use NIOSH-approved self-contained breathing apparatus and full protective clothing. Use water to cool exposed containers. Water stream directed into fire may cause frothing with subsequent spread of flame.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Remove sources of ignition. Dike or contain spill. Wear appropriate protective equipment during cleanup. Absorb with inert material, such as clay. Sweep or shovel into loosely-covered waste container and remove to appropriate waste area. Wash area. Prevent washings from entering drains and waterways. Dispose of in accordance with federal, state, and local regulations. Handle contaminated cleaning equipment in accordance with federal, state, and local regulations.

SECTION 7 – HANDLING AND STORAGE

HANDLING: Use with adequate ventilation. Follow all MSDS/label precautions even after container is emptied because it may retain product residues. Ground and bond containers when transferring material. Avoid contact with eyes, skin, and clothing. FOR INDUSTRIAL USE ONLY.

STORAGE: Keep away from heat, sparks and flame. Keep container closed when not in use. KEEP OUT OF THE REACH OF CHILDREN.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Local exhaust as needed to control vapor or dust levels to below lowest component TLV.

RESPIRATORY PROTECTION: If TLV/PEL is exceeded, if use is performed in a poorly-ventilated space, or if inhalation effects occur, use NIOSH-approved vapor cartridge respirator in accordance with applicable health and safety regulations and manufacturer's recommendations.

SKIN PROTECTION: Clean clothing to cover skin.

EYE PROTECTION: Chemical splash goggles.

OTHER PROTECTIVE EQUIPMENT: Accessible eye wash and safety shower.

HYGIENIC PRACTICES: Follow good general industrial safety practices during use. Do not smoke or eat during use. DO NOT reuse empty containers without commercial clean or recondition.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

BOILING RANGE:	295 - 295 ° F	VAPOR DENSITY:	Is heavier than air
ODOR:	Plastic pungent	ODOR THRESHOLD:	No data
APPEARANCE:	Clear	EVAPORATION RATE:	Is slower than Butyl Acetate
SOLUBILITY IN H ₂ O:	Insoluble		
FREEZE POINT:	No data	SPECIFIC GRAVITY:	1.1016
VAPOR PRESSURE:	No data	pH @ 0.0%:	N.A.
PHYSICAL STATE:	Liquid	VISCOSITY:	Low
COEFFICIENT OF WATER/OIL DISTRIBUTION:	No data		

(SEE SECTION 16 FOR ABBREVIATION LEGEND)

SECTION 10 – STABILITY AND REACTIVITY

CONDITIONS TO AVOID: Heat, direct sunlight.

INCOMPATIBILITY: Strong Lewis or mineral acids. Strong bases or oxidants. Strong mineral and organic bases.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon. Aromatic and aliphatic hydrocarbons.

HAZARDOUS POLYMERIZATION: Could occur under normal conditions.

STABILITY: This product is stable under normal storage conditions.

SECTION 11 – TOXICOLOGICAL PROPERTIES

COMPONENT TOXICOLOGICAL INFORMATION:

----- CHEMICAL NAME -----

----- LD50 -----

----- LC50 -----

Styrene

Orl-rat=5000mg/kg

Inh-rat=24g/m³/4H

SECTION 12 – ECOLOGICAL INFORMATION

ECOLOGICAL TEST DATA: Not Available

SECTION 13 – DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Review all current federal, state, and local regulations regarding health and disposal for appropriate disposal procedures. Incineration preferred. Considered a hazardous waste under federal RCRA regulations if disposed of "as sold." Cured product is inert and non-hazardous and may be disposed of in landfill if regulations permit.

SECTION 14 – TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME: Resin solution	
DOT TECHNICAL NAME: N.A.	
DOT HAZARD CLASS: 3	HAZARD SUBCLASS: N.A.
DOT UN/NA CLASS: UN1866	PACKAGING GROUP: III
	RESP. GUIDE PAGE: 127
INTERNATIONAL SHIPPING NAME: Resin solution	
INTERNATIONAL ID NUMBER: UN1866	
IMDG CLASS (1°, 2°): 3.3, none	IMDG PAGE NUMBER: III
IMDG EMS: 305	IATA CLASS (1°, 2°): 3, none

SECTION 15 – REGULATORY INFORMATION

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200)

CERCLA – SARA HAZARD CATEGORY: THIS PRODUCT HAS BEEN REVIEWED, AND IS CONSIDERED, UNDER APPLICABLE DEFINITIONS, TO MEET THE FOLLOWING CATEGORIES: IMMEDIATE HEALTH HAZARD CHRONIC HEALTH HAZARD FIRE HAZARD REACTION HAZARD

SARA SECTION 313: THIS PRODUCT CONTAINS THE FOLLOWING SUBSTANCES SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 AND 40 CFR PART 372:

----- CHEMICAL NAME -----	CAS NUMBER	WT/WT % IS LESS THAN
Styrene	100-42-5	30.0-60.0

TOXIC SUBSTANCE CONTROL ACT: THE CHEMICAL SUBSTANCES IN THIS PRODUCT ARE ON THE TSCA SECTION 8 INVENTORY. THIS PRODUCT CONTAINS THE FOLLOWING CHEMICAL SUBSTANCES SUBJECT TO THE REPORTING REQUIREMENTS OF TSCA 12(B) IF EXPORTED FROM THE UNITED STATES:

----- CHEMICAL NAME -----	CAS NUMBER
No components found.	

NEW JERSEY RIGHT-TO-KNOW: THE FOLLOWING MATERIALS ARE NON-HAZARDOUS, BUT ARE AMONG THE TOP 5 COMPONENTS IN THIS PRODUCT:

----- CHEMICAL NAME -----	CAS NUMBER
Polyester resin	Unknown

PENNSYLVANIA RIGHT-TO-KNOW: THE FOLLOWING NON-HAZARDOUS INGREDIENTS ARE PRESENT IN THE PRODUCT AT GREATER THAN 3%:

----- CHEMICAL NAME -----	CAS NUMBER
Polyester resin	Unknown

CALIFORNIA PROPOSTION 65: No Proposition 65 chemicals known to exist in this product.

CANADIAN WHMIS: THIS MSDS HAS BEEN PREPARED IN COMPLIANCE WITH CONTROLLED PRODUCT REGULATIONS EXCEPT FOR USE OF THE 16 HEADINGS.

CANADIAN WHMIS CLASS: B2, D2A

COMPONENT RCRA CLASSIFICATIONS: Ignitable.

COMPONENT RCRA CODES: D001

CERCLA RQ VALUE (MINIMUM) (LBS): 100 (as waste); 1000 (as product)

SECTION 16 – OTHER INFORMATION

HMIS RATINGS

HEALTH: 2*

FLAMMABILITY: 3

REACTIVITY: 1

PREVIOUS MSDS REVISION DATE: October 14, 2005 (10/14/05)

REASON FOR REVISION: Administrative change for new format.

VOLATILE ORGANIC COMPOUNDS: 335 grams/ltr

LEGEND:

N.A. – NO INFORMATION

N.E. – NOT ESTABLISHED

N.D. – NOT DETERMINED

ABBREVIATIONS: ACGIH = AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS; OSHA = OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION; TLV-TWA = THRESHOLD LIMIT VALUE – TIME WEIGHTED AVERAGE (8 HOURS); STEL = SHORT-TERM EXPOSURE LIMIT (15 MINUTES); C = CEILING VALUE; PEL = PERMISSIBLE EXPOSURE LIMIT

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