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M A T E R I A L   S A F E T Y   D A T A   S H E E T  
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SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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PRODUCT NAME : BUEHLER CASTOGLAS RESIN  
IDENTIFICATION NUMBER: 20-8124-002, 20-8124-009  
PRODUCT USE/CLASS : Resin blend

SUPPLIER:

Buehler UK, Ltd.	Buehler GmbH
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PREPARER: Technical Department, PHONE: +18472955600, PREPARE DATE: 08/10/02

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SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

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ITEM	----- CHEMICAL NAME -----	CAS NUMBER	WT/WT%
01	Styrene	100-42-5	30.0-60.0
	Classification: Xn, Xi; R10-20-36/38		

----- EXPOSURE LIMITS -----

ITEM	U/K		GERMANY		OTHER	
	8-HR REL	15-MIN STEL	8-HR MAK	15-MIN MAK	8-HR TWA	SKIN
01	N.E.	N.E.	N.E.	N.E.	50ppm ACGIH	YES

(See Section 16 for abbreviation legend)

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SECTION 3 - IDENTIFICATION OF HAZARDS

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EMERGENCY OVERVIEW: (R10) Flammable. (R20) Harmful by inhalation.  
(R36/38) Irritating to eyes and skin.

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

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SECTION 4 - FIRST AID MEASURES

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EYE CONTACT: Flush eye with water for 15 minutes. Get medical attention.

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

INHALATION: If symptoms occur, remove to fresh air. Medical personnel may administer oxygen if breathing is difficult. Seek medical attention if symptoms persist.

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.

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SECTION 5 - FIRE FIGHTING MEASURES

FLASH POINT: 31 C LOWER EXPLOSIVE LIMIT: 1.1 %
(PENSKY-MARTENS C.C.) UPPER EXPLOSIVE LIMIT: 6.1 %
AUTOIGNITION TEMPERATURE: No data

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

UNUSUAL FIRE AND EXPLOSION HAZARDS: 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. Containers exposed to fire may explode.

SPECIAL FIREFIGHTING PROCEDURES: Water stream may be used to cool exposed containers. Water stream should not be directed into fire.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Reclaim clean material. Remove sources of ignition. Absorb with inert material such as clay. Place contaminated material in covered waste container and store in a cool area away from direct sunlight.

SECTION 7 - HANDLING AND STORAGE

HANDLING: Use only in a well ventilated area. Follow all MSDS/label precautions even after container is emptied because it may retain product residues. Avoid contact with eyes, skin, and clothing. FOR INDUSTRIAL USE ONLY.

STORAGE: Store in a cool area in original container away from direct heat and sunlight. Keep container closed when not in use.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: General ventilation usually adequate. Supplemental ventilation equipment should be approved for use with flammable vapors.

RESPIRATORY PROTECTION: If exposure levels are unknown, if levels exceed recommended safe exposure limit, or if effects occur, use approved respirator for protection against organic vapors in accordance with regulations and manufacturer's recommendations.

SKIN PROTECTION: Clean clothing to cover skin. Butyl rubber gloves. DO NOT use vinyl gloves.

EYE PROTECTION: Chemical splash goggles.

OTHER PROTECTIVE EQUIPMENT: Eye wash.

HYGIENIC PRACTICES: Follow good general industrial safety practices during use.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

BOILING RANGE : 146 - 146 C VAPOR DENSITY : Is heavier than air
ODOR : Pungent plastic ODOR THRESHOLD : No data
APPEARANCE : Clear EVAPORATION RATE: Is slower than Butyl
SOLUBILITY IN H2O : Insoluble Acetate
FREEZE POINT : No data SPECIFIC GRAVITY: 1.0168

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SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

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: Prolonged exposure to heat, sunlight.

INCOMPATIBILITY: Strong mineral and organic bases. Alkali metal-graphite composites, butyllithium, bidenxoyl peroxide, chlorosulfonic acid, oleum, sulfuric acid, chlorine + iron(III) chloride.

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

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.
STABILITY: This product is stable under normal storage conditions.

SECTION 11 - TOXICOLOGICAL PROPERTIES

COMPONENT TOXICOLOGICAL INFORMATION:

Table with 4 columns: CHEMICAL NAME, LD50, LC50, and toxicity data for Styrene.

Toxicological Test Data: No data.

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: May cause nausea and vomiting.

CHRONIC OVEREXPOSURE EFFECTS: \*Styrene has been listed as a potential carcinogen by IARC. Evidence of carcinogenicity has not been seen in epidemiological studies 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 REL/TLV and higher. The significance of this finding to humans is unknown.

SECTION 12 - ECOLOGICAL INFORMATION

ECOLOGICAL TEST DATA: No DATA

SECTION 13 - DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Fuels blending or incineration preferred for free liquid. This material and/or its container may be required to be disposed of as hazardous waste if disposed of "as sold." Cured product is inert and non-hazardous and may be landfilled if local regulations permit.

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SECTION 14 - TRANSPORTATION INFORMATION

INTERNATIONAL SHIPPING NAME: Resin solution
INTERNATIONAL ID NUMBER: UN1866
IMDG CLASS (1,2): 3.2, NONE PACKING GROUP: III
IMDG EMS: 313 IATA CLASS (1,2): 3, none

INTERNATIONAL SHIPPING INFORMATION: TEC-101

SECTION 15 - REGULATORY INFORMATION

CHIP SUPPLY LABEL RISK PHRASES: (R10) Flammable. (R20) Harmful by inhalation. (R36/38) Irritating to eyes and skin.

CHIP SUPPLY LABEL SAFETY PHRASES: (S23) Do not breathe vapors. For professional use only.

CHIP SUPPLY LABEL SYMBOLS: Harmful, Xn

SECTION 16 - OTHER INFORMATION

PREVIOUS MSDS REVISION DATE: 04/04/01
REASON FOR REVISION: update Section(s): 1,2,15

VOLATILE ORGANIC COMPOUNDS (VOCs): 335 grams/ltr (calculated)

LEGEND: N.A. - Not Applicable, N.E. - Not Established,
N.D. - Not Determined

ABBREVIATIONS: ACGIH = American Conference of Governmental Industrial Hygienists; OSHA = US Occupational Health and Safety Administration; UK = United Kingdom; TLV-TWA = Threshold Limit Value-Time Weighted Average (8 hrs); STEL = Short-Term Exposure Limit (15 min); C = Ceiling Value; PEL = Permissible Exposure Limit

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