



## MATERIAL SAFETY DATA SHEET

### SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: BUEHLER METCOAT  
 IDENTIFICATION NUMBER: 20-8190  
 PRODUCT USE/CLASS: Coating  
  
 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: 03/23/09, 23 March 2009

### SECTION 2 – COMPOSITION/INFORMATION ON INGREDIENTS

ITEM	CHEMICAL NAME	CAS NUMBER	WT/WT%			
01	Toluene	108-88-3	30.0-60.0			
02	Ethylbenzene	100-41-4	1.0-5.0			
03	1,1,1,2-tetrafluoroethane	811-97-2	10.0-30.0			
04	Xylene	1330-20-7	5.0-10.0			
ITEM	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL – CEILING	COMPANY TLV-TWA	SKIN
01	50 ppm	N.E.	50 ppm	200 ppm	N.E.	YES
02	100 ppm	125 ppm	100 ppm	N.E.	100 ppm	NO
03	1000 ppm	N.E.	1000 ppm	N.E.	N.E.	NO
04	100 ppm	150 ppm	100 ppm	N.E.	100 ppm	NO

(SEE SECTION 16 FOR ABBREVIATION LEGEND)

### SECTION 3 – HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW:** Harmful if inhaled or swallowed. High vapor concentrations may cause drowsiness. Extremely flammable liquid and vapor. Contents under pressure. Respiratory irritant. May cause skin and eye irritation.

**ACUTE EFFECTS – EYE CONTACT:** Contact may cause injury to eye tissue if not removed promptly.

**ACUTE EFFECTS - SKIN CONTACT:** Moderate irritant. Prolonged contact may cause dermatitis.

**ACUTE EFFECTS – INHALATION:** Can cause severe central nervous system depression, including unconsciousness. High vapor concentrations are irritating to the eyes, nose, throat and lungs. Liquid particles breathed into the lungs may cause injury to the lungs, liver, or kidneys. Vapors may have a strong offensive odor which may cause headaches, nausea and vomiting. \*Extreme overexposure to 1,1,1,2-tetrafluoroethane may cause cardiac arrhythmia. Effects are worsened by activity following overexposure.

**ACUTE EFFECTS - INGESTION:** Irritating to mouth, throat and stomach, with nausea.

**CHRONIC OVEREXPOSURE EFFECTS:** \*Teratogenicity (damage to fetus) similar to that of fetal alcohol syndrome is found in human studies where there is repeated excessive in-utero exposure toluene. Chronic toluene abuse produces kidney damage. \*Preexisting pulmonary and dermatological disorders may be aggravated by exposure to hazardous components. \*Overexposure to xylene has been found to cause anemia, liver abnormalities, kidney damage, and/or eye damage in animals. Repeated or prolonged overexposure may cause injury to the red blood cells, ECG abnormalities, dyspnea, cyanosis, or damage to the central nervous system. Xylene at about 100 ppm may affect equilibrium, slow reaction time, or affect manual coordination. \*Studies suggest that solvent chronic overexposure effects are targeted at the liver and central nervous system. Deliberate and repeated inhalation of concentrated solvent vapors may cause permanent neural injury. Consumption of alcohol in conjunction with repeated solvent exposure may cause color vision defects.

**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. Get medical attention, if irritation persists.

**SKIN CONTACT:** Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

**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:** In case of poisoning, do not use epinephrine. Treat ventricular arrhythmias with beta-blocking agents. Keep patient calm.

## SECTION 5 – FIRE FIGHTING MEASURES

FLASH POINT: 10 F (TAG OPEN CUP)

LOWER EXPLOSIVE LIMIT: 1.1 %

UPPER EXPLOSIVE LIMIT: 7.0 %

AUTOIGNITION TEMPERATURE: No data

EXTINGUISHING MEDIA: ALCOHOL FOAM, CO<sub>2</sub>, DRY CHEMICAL, FOAM

UNUSUAL FIRE AND EXPLOSION HAZARDS: Contents under pressure. Closed containers may rupture or explode when exposed to direct 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. "Empty" containers may retain dangerous product residues or explosive vapors. DO NOT pressurize, cut, weld, braze, solder, drill or grind on or near empty containers. Store full and empty containers away from heat, sparks, flame, and other sources of ignition. 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.

## SECTION 6 – ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Wear appropriate protective equipment during cleanup. Wipe up excess with towel or rag. Dispose of towels/rags in accordance with federal, state, and local regulations. Dispose of damaged aerosol container in accordance with state and local regulations regarding "empty" chemical containers.

## SECTION 7 – HANDLING AND STORAGE

HANDLING: Follow all MSDS/label precautions even after container is emptied because it may retain product residues. Avoid contact with skin and eyes. FOR INDUSTRIAL USE ONLY.

STORAGE: Keep away from heat, sparks and flame. Do not store in direct sunlight. 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. Neoprene gloves. Teflon gloves. Viton gloves. Supported PVA gloves.

EYE PROTECTION: Safety glasses.

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. Follow all MSDS/label precautions even after container is emptied.

## SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

BOILING RANGE:	232 - 281 F	VAPOR DENSITY:	Is heavier than air
ODOR:	Strong solvent	ODOR THRESHOLD:	Est 1 ppm
APPEARANCE:	Clear	EVAPORATION RATE:	Is faster than Butyl Acetate
SOLUBILITY IN H <sub>2</sub> O:	Negligible		
FREEZE POINT:	No data	SPECIFIC GRAVITY:	0.9596
VAPOR PRESSURE:	45psig @ 70 F	pH @ 0.0%:	N.A.
PHYSICAL STATE:	Liquid	VISCOSITY:	Very 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.

INCOMPATIBILITY: Strong oxidants.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon. Fluorinated hydrocarbons. Hydrofluoric acid in acid environment. Carbonyl halides.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.

STABILITY: This product is stable under normal storage conditions.

## SECTION 11 – TOXICOLOGICAL PROPERTIES

COMPONENT TOXICOLOGICAL INFORMATION:

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

----- LD50 -----

----- LC50 -----

Toluene

oral-rat 5000mg/kg

Mouse 5320 ppm/8H

Ethylbenzene

Oral rat 3500mg/kg

Not Applicable

1,1,1,2-tetrafluoroethane

No information

Inh-rat=1500g/m<sup>3</sup>/4h

Xylene

oral(rat)4300mg/kg

Not Applicable

## 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. Full or partially-full containers are considered hazardous waste under Federal RCRA regulations. Incineration not recommended.

## SECTION 14 – TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME: Aerosols, flammable	
DOT TECHNICAL NAME: N.A.	
DOT HAZARD CLASS: 2.1	HAZARD SUBCLASS: N.A.
DOT UN/NA CLASS: UN1950	PACKAGING GROUP: N.A.
	RESP. GUIDE PAGE: 126
INTERNATIONAL SHIPPING NAME: IATA: Aerosols, flammable IMDG: Aerosols	
INTERNATIONAL ID NUMBER: UN1950	
IMDG CLASS (1°, 2°): 2 (none)	IMDG PAGE NUMBER: N.A.
IMDG EMS: 213	IATA CLASS (1°, 2°): 2.1, NONE
ADR ITEM NO.: N.A.	ADR TREMCARD: N.A.
SUPPLEMENTAL INFORMATION: Not applicable	

## 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

**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
Toluene	108-88-3	30.0-60.0
Ethylbenzene	100-41-4	1.0-5.0
Xylene	1330-20-7	5.0-10.0

**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

Acrylic polymer Unknown

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

----- CHEMICAL NAME ----- CAS NUMBER

Acrylic polymer Unknown

**CALIFORNIA PROPOSTION 65:** WARNING: This product contains a chemical(s) known to the state of California to cause birth defects or other reproductive harm. (toluene)

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

CANADIAN WHMIS CLASS: D2B, B2

**COMPONENT RCRA CLASSIFICATIONS:** Ignitable. Toxic

**COMPONENT RCRA CODES:** D001 F005 U239 U220

**CERCLA RQ VALUE (MINIMUM):** 100

## SECTION 16 – OTHER INFORMATION

### HMIS RATINGS

HEALTH: 2

FLAMMABILITY: 3

REACTIVITY: 0

PREVIOUS MSDS REVISION DATE: 10/14/05; 14 Oct 2005

REASON FOR REVISION: Administrative change for new format.

VOLATILE ORGANIC COMPOUNDS: 208 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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