



MATERIAL SAFETY DATA SHEET

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: BUEHLER SAMPL-KWICK LIQUID

IDENTIFICATION NUMBER: 20-3564, 20-3564-320, 20-3564-640, 20-3568 & 20-3560

PRODUCT USE/CLASS: Acrylic hardener

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: 02/25/2013, 25 February 2013

SECTION 2 – COMPOSITION/INFORMATION ON INGREDIENTS

| ITEM | CHEMICAL NAME | CAS NUMBER | WT/WT% | | | |
|------|--|----------------|--------------|--------------------|-----------------|------|
| 01 | Isobutyl methacrylate | 97-86-9 | <90 | | | |
| 02 | Trimethylolpropane trimethacrylate ester | 3290-92-4 | <20 | | | |
| 03 | N, N-Dimethyl-p-Toluidine | 99-97-8 | <3 | | | |
| ITEM | ACGIH TLV-TWA | ACGIH TLV-STEL | OSHA PEL-TWA | OSHA PEL - CEILING | COMPANY TLV-TWA | SKIN |
| 01 | N.E. | N.E. | N.E. | N.E. | N.E. | NO |
| 02 | N.E. | N.E. | N.E. | N.E. | N.E. | NO |
| 3 | N.E. | N.E. | N.E. | N.E. | N.E. | NO |

(SEE SECTION 16 FOR ABBREVIATION LEGEND)

SECTION 3 – HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Causes skin irritation Causes severe eye irritation May cause an allergic skin reaction May cause respiratory irritation. May cause drowsiness or dizziness May cause damage to organs through prolonged or repeated exposure Flammable liquid and vapor

ACUTE EFFECTS – EYE CONTACT: Irritating to the eyes. May cause swelling, tearing, and redness.

ACUTE EFFECTS - SKIN CONTACT: Frequent or prolonged contact may irritate the skin and cause a skin rash (dermatitis). Repeated or prolonged contact may cause sensitization.

ACUTE EFFECTS – INHALATION: May cause coughing, headache and central nervous system effects. High concentrations irritant to the respiratory tract and may lead to nausea, vomiting, dizziness, convulsions, loss of consciousness, difficulty breathing. .

ACUTE EFFECTS - INGESTION: May cause nausea and vomiting.

CHRONIC OVEREXPOSURE EFFECTS: Unlikely to present carcinogenic hazard and no known chronic (cancer) information. No reproductive information available but no adverse effects expected. Some evidence of potential developmental toxicity but inadequate information is available to assess teratogenic hazard. No adverse effects expected.

OTHER INFORMATION: *Overexposure to hazardous components may aggravate preexisting skin, lung, or kidney disorders. *Repeated and prolonged overexposure may cause damage to the liver or kidneys.

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

SECTION 4 – FIRST AID MEASURES

EYE CONTACT: Immediately flush eyes with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get immediate medical attention.

SKIN CONTACT: Remove contaminated clothing. 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: Treat symptomatically.

SECTION 5 – FIRE FIGHTING MEASURES

FLASH POINT: 49.4°C, 121 °F (closed cup)

LOWER EXPLOSIVE LIMIT: N.A.

UPPER EXPLOSIVE LIMIT: N.A.

AUTOIGNITION TEMPERATURE: No data

EXTINGUISHING MEDIA: CO₂, DRY CHEMICAL,FOAM, WATER FOG

UNUSUAL FIRE AND EXPLOSION HAZARDS: Vapors or gases may travel considerable distance to ignition source and flash back. Fine mist or sprays may be flammable at temperatures below the flash point. Sealed containers exposed to elevated temperatures may rupture explosively due to polymerization. Vapors are heavier than air and may travel to ignition source.

SPECIAL FIREFIGHTING PROCEDURES: Wear a NIOSH approved positive pressure self-contained breathing apparatus with full protective clothing. Do not release runoff from fire control methods to sewers or waterways. 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 or protect from sources of ignition such as flames, pilot lights, and heaters. Wear appropriate protective equipment during cleanup. Soak up with sand, oil dry or other absorbent, non-combustible material. Cleaned up material is a RCRA Hazardous Waste. Sweep or shovel into loosely-covered waste container and remove to appropriate waste area. Dispose of in accordance with federal, state, and local regulations.

SECTION 7 – HANDLING AND STORAGE

HANDLING: Wash contaminated clothing before reuse. Use personal protection recommended in Section 8. Contaminated work clothing should not be allowed out of the workplace. Use only in well-ventilated areas. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Ground container and transfer equipment to eliminate static electric sparks. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Use non-sparking hand tools and explosion-proof electrical equipment. Take precautionary measures against static discharges.

STORAGE: Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Protect from direct sunlight. Store in accordance with National Fire Protection Association recommendations. Maintain air space inside storage containers; inhibitor requires air (oxygen) contact to function. Vapors are uninhibited and may form polymers in vents or flame arresters, resulting in blockage of vents. Check inhibitor levels after 6 months and return to original level.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

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

RESPIRATORY PROTECTION: If exposure levels are unknown, if levels exceed TLV/PEL, or if effects occur, use NIOSH-approved dust/mist respirator in accordance with applicable health and safety regulations and manufacturer's recommendations.

SKIN PROTECTION: Clean clothing to cover skin. Nitrile rubber is better than PVC. Wear appropriate clothing to prevent skin contact.

EYE PROTECTION: Eye protection (i.e., safety glasses, safety goggles and/or face shield) should be determined based on conditions of use.

OTHER PROTECTIVE EQUIPMENT: Accessible eye wash and safety shower.

HYGIENIC PRACTICES: Follow good general industrial safety practices during use. DO NOT reuse empty containers without commercial clean or recondition. Follow all MSDS/label precautions even after container is emptied.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---|---------------------------|--------------------------|------------------------------|
| BOILING RANGE: | 155° C at 1013 hPa | VAPOR DENSITY: | > 1 at 20 °C / 68 °F |
| ODOR: | Ester-like | ODOR THRESHOLD: | No data |
| APPEARANCE: | Clear | EVAPORATION RATE: | Is slower than Butyl Acetate |
| SOLUBILITY IN H₂O: | 470 mg/l at 20 °C / 68 °F | | |
| FREEZE POINT: | No data | SPECIFIC GRAVITY: | 0.8914 |
| VAPOR PRESSURE: | 2.11 hPa at 20 °C / 68 °F | 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 and ignition sources; contamination.

INCOMPATIBILITY: Reducing and oxidizing agents. Tertiary amines. Heavy metals. Peroxides.

HAZARDOUS DECOMPOSITION PRODUCTS: None when used as directed.

HAZARDOUS POLYMERIZATION: Can occur when not used under normal conditions.

STABILITY: This product is stable under normal storage conditions.

SECTION 11 – TOXICOLOGICAL PROPERTIES

COMPONENT TOXICOLOGICAL INFORMATION:

Animals:Oral LD50 : > 5,000 mg/kg in rats

.....Inhalation LC50 mouse, 290 min. 29.7 mg/l

.....Irritant Effect on the skin: Rabbit, moderately irritant

.....If contact with the skin is prolonged and /or frequent, irritations cannot be excluded.

.....Skin irritant category 2 (UN-GHS)

.....Irritant effect on the eyes: Rabbit, slightly irritant

SYMPTIOMS: Contact may cause irritation and redness. Exposed individuals may experience eye tearing, redness, and discomfort. May cause nose and throat irritation, with possible central nervous system effects.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity; This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

STOT - single exposure. May cause respiratory irritation. May cause drowsiness or dizziness.

STOT - repeated exposure. May cause damage to organs through prolonged or repeated exposure.

SECTION 12 – ECOLOGICAL INFORMATION

Harmful to aquatic life Harmful to aquatic life with long lasting effects

Persistence and degradability: Material is readily biodegradable. 74% in 28 days.

Bioaccumulation: The product has moderate potential for bioaccumulation.

Mobility: Potential for mobility in soil is very high.

Other adverse effects: The product is substantially removed in biological treatment processes.

| Chemical Name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|--|--|---|----------------------------|-------------------------------------|
| Isobutyl methacrylate 97-86-9 | 0.29: 96 h Pseudokirchneriella subcapitata mg/L EC50 | 20: 96 h Oncorhynchus mykiss mg/L LC50 flow- through | | 23: 48 h Daphnia magna mg/L EC50 |
| Trimethylolpropane Trimethacrylate 3290-92-4 | | 144: 96 h Oncorhynchus mykiss mg/L LC50 160: 96 h Pimephales promelas mg/L LC50 112: 96 h Lepomis macrochirus mg/L LC50 | | |
| Benzenamine, N,N,4- trimethyl-99-97-8 | | 42-50.5: 96 h Pimephales promelas mg/L LC50 flow- through | | |

SECTION 13 – DISPOSAL CONSIDERATIONS

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

SECTION 14 – TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME: Flammable liquid, n.o.s.(Isobutyl methacrylate/Trimethylolpropane Trimethacrylate solution)

Note: Not regulated – Domestic containers of less than 450L capacity are not regulated by DOT.

| | |
|---|------------------------|
| DOT TECHNICAL NAME: N.A. | HAZARD SUBCLASS: N.A. |
| DOT HAZARD CLASS: 3 | PACKAGING GROUP: III |
| DOT UN/NA CLASS: UN1993 | RESP. GUIDE PAGE: |
| | |
| INTERNATIONAL SHIPPING NAME: Flammable liquid, n.o.s. (Isobutyl methacrylate/Trimethylolpropane Trimethacrylate solution) | |
| INTERNATIONAL ID NUMBER: UN1993 | |
| IMDG CLASS (1°, 2°): 3 | PACKING GROUP: III |
| IMDG EMS: | IATA CLASS (1°, 2°): 3 |

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 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

No SARA Section 313 components exist in this product.

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

No non-hazardous materials are among the top five ingredients.

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

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

No non-hazardous ingredients are present at greater than 3%.

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:

B3: Combustible Liquid

D2B: Toxic Material Skin or eye irritant

F: Dangerously reactive material

COMPONENT RCRA CLASSIFICATIONS: Not regulated

COMPONENT RCRA CODES: Not Applicable.

CERCLA RQ VALUE (MINIMUM): None known

SECTION 16 – OTHER INFORMATION

HMIS RATINGS

HEALTH: 2

FLAMMABILITY: 2

REACTIVITY: 2

PREVIOUS MSDS REVISION DATE: 5/18/2012, 18 May 2012

REASON FOR REVISION: Revised sections: 7 & 12

VOLATILE ORGANIC COMPOUNDS: 0.1% grams/ltr (calculated)

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

DISCLAIMER: TO THE BEST OF OUR KNOWLEDGE, THE INFORMATION CONTAINED IN THIS MSDS IS ACCURATE OR IS OBTAINED FROM SOURCES BELIEVED TO BE ACCURATE. HOWEVER, NO LIABILITY, EXPRESSED OR IMPLIED, IS ASSUMED FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION CONTAINED HEREIN. BUYER ASSUMES LIABILITY IN ITS USE OF THE MATERIAL.