

EMS CATALOG # : 50376-05
EMS PRODUCT : FORMULA C
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MATERIAL SAFETY DATA SHEET

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CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURER/SUPPLIER:

Electron Microscopy Sciences
321 Morris Road
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PRODUCT NAME: FORMULA C

DESCRIPTION: Lapping Vehicle

COMPOSITION/INFORMATION ON INGREDIENTS

NAME:	CAS #	PERCENT	OSHA PEL	ACGIH TLV
Straight Run Middle distillate	64741-44-2	> 90	5mg/m ³ (mist)	5mg/m ³ (mist)
Ethylene glycol monobutyl ether	111-76-2	< 10	25ppm	25 ppm (skin)

HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Product has been determined to be mildly carcinogenic.

POTENTIAL HEALTH EFFECTS:

- EYE: Irritation and pain; excess tearing, redness and swelling of the conjunctiva.
- SKIN: Irritation. Prolonged contact may cause dermatitis, defatting, and drying of the skin. A weak to moderate carcinogen. Moderately toxic.
- INGESTION: Headache, dizziness, incoordination, vomiting, aspiration and diarrhea. Moderately toxic.
- INHALATION: Irritation of the respiratory tract, central nervous system depression, and chemical pneumonitis.

CHRONIC HEALTH EFFECTS/CARCINOGENICITY

- NTP: Not listed.
- OSHA: Not listed.
- IARC: Not listed.

Medical Restrictions: Preexisting dermal or respiratory disorders or allergies may be aggravated by exposure to this product..

FIRST AID MEASURES

- EYES: Flush eyes with water for 15 minutes. If irritation persists, get medical attention.
- SKIN: Remove contaminated clothing and wash before reuse. Items that cannot be decontaminated should be discarded. Wash skin with soap and water promptly. Get medical attention if irritation persists.
- INGESTION: Do not induce vomiting; if it occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Get medical attention.
- INHALATION: Remove to fresh air and administer oxygen if breathing is difficult.

FIRE FIGHTING MEASURES

FIRE FIGHTING: Caution. Do not enter fire space without full bunker gear (helmet with face shield, bunker coats, and rubber boots), including a positive-pressure NIOSH-approved self-contained breathing apparatus. Cool fire exposed containers with water.

In the case of large fires, also cool surrounding equipment and structures with water.

EXTINGUISHING MEDIA: Use water for, foam, dry chemical or carbon dioxide.

HAZARDOUS COMBUSTION PRODUCTS: Carbon monoxide, carbon dioxide, and other unidentified organic compounds.

FLASH POINT: 178°F., Pensky-Martens closed cup.

LOWER FLAMMABLE LIMIT: 0.7

UPPER FLAMMABLE LIMIT: 6.0

AUTOIGNITION: Not available.

CONDITIONS OF FLAMMABILITY: Product will float and may be ignited on surface of water. Classified as a combustible liquid.

EXPLOSION DATA

IMPACT SENSITIVITY: Not known.

STATIC DISCHARGE: Not known.

ACCIDENTAL RELEASE MEASURES

GENERAL: Eliminate sources of ignition. Wear appropriate protection.

SMALL SPILLS: Wipe up with absorbent material and place in non-leaking container for proper disposal.

LARGE SPILLS: Shut off source of leak if safe to do so. Dike and contain spill; sock up material with clay, sand or other suitable absorbent; do not use sawdust which may create an explosion hazard. Dispose of in non-leaking container and seal tightly for disposal. Flush area with water to remove trace residue. Dispose of flush solution in same manner as above.

HANDLING AND STORAGE

HANDLING: Wear appropriate protection. Wash with soap and water before eating, drinking, smoking, or using toilet facilities. Launder contaminated clothing before reuse; clothing or shoes that cannot be decontaminated should be discarded.

STORAGE: Keep container closed when not in use. Keep liquid away from heat, sparks or flame. Surfaces that are sufficiently hot may cause liquid to ignite even in the absence of spark or flame.

EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMITS: See Section Labeled Composition / Information on Ingredients.

VENTILATION: General recommended; load as needed to keep exposure below stated limits.
RESPIRATORY PROTECTION: Use NIOSH-approved air supplying or air-purifying respirator for organic vapors-purifying respirator for organic vapors
EYE PROTECTION: OSHA-approved safety glasses.
SKIN PROTECTION: Chemical resistant or nitrile gloves.
OTHER: Eye bath and safety shower should be available.

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid.
COLOR: Yellow.
ODOR: Mild hydrocarbon odor.
SPECIFIC GRAVITY: 0.88, water= 1
VAPOR PRESSURE: Not available.
VAPOR DENSITY: > 1, air= 1
EVAPORATION RATE: Not available.
VOLATILE FRACTION
BY WEIGHT: 100
BOILING POINT: 340°F
MELTING POINT: 15°F
DYNAMIC VISCOSITY: 18.5 centipoise.
KINEMATIC VISCOSITY: Not available.
SOLUBILITY IN WATER: Insoluble
Ph: Not applicable.

STABILITY AND REACTIVITY

STABILITY: Stable.
REACTIVITY: Avoid extreme heat and open flame.
INCOMPATIBILITY: Alkalis and oxidizing materials.
HAZARDOUS POLYMERIZATION: Will not occur.
DECOMPOSITION: Carbon monoxide and other unidentified organic compounds.

TOXICOLOGICAL INFORMATION

Repeated dermal application of high levels of middle distillate fuels in experimental animals has produced extremely severe irritation to corrosive action on the skin. Varying degrees of liver and kidney damage were noted in these studies, including congestion, enlargement, mottling, and multifocal necrosis.

Middle distillate fuels have been demonstrated to cause chromosome damage in the vivo rat bone marrow cytogenics assay, and mutagenic in the L5178Y mouse lymphoma assay.

ECOLOGICAL INFORMATION

No information available.

DISPOSAL INFORMATION

RCRA HAZARDOUS WASTE: Hazardous solid waste under RCRA.
WASTE DISPOSAL: Place in an appropriate disposal facility in accordance with Federal, State and Local regulations.

TRANSFORMATION INFORMATION

DOT HAZARD CLASS: Not regulated.
PROPER SHIPPING NAME: Not Listed.
IDENTIFICATION #: Not Listed.

REGULATORY INFORMATION

FEDERAL EPA

SARA TITLE III: Glycol ethers, section 313. Straight run middle distillate listed in categories H-1 and H-2 under section 311/312: Acute health hazard, Chronic health hazard.

TSCA STATUS: All ingredients of this product are on the TSCA inventory.

WHMIS CLASSIFICATION: Not known.

STATE RIGHT TO KNOW

CALIFORNIA-65: Not listed.

FLORIDA: Not listed.

MASSACHUSETTS: Ethylene glycol monobutyl ether.

NEW JERSEY: Ethylene glycol monobutyl ether. Gas oil

PENNSYLVANIA: Ethylene glycol monobutyl ether.

OTHER

HMS CODE: Health 2, Flammability 2, Reactivity 0

(0=minimal hazard, 1=slight hazard, 2=moderate hazard, 3=serious hazard, 4=extreme hazard)