



MicroCare Corporation, 595 John Downey Drive, New Britain, Connecticut 06051 USA
(860) 827-0626 (Customer Service); email: techsupport@microcare.com

MATERIAL SAFETY DATA SHEET

Preparation date: 01/21/08
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1. Chemical Product and Company Identification

Product Name: Ionox™ BC Circuit Cleaner; #MCC-KBCG; #MCC-KBCP; #MCC-KBCD

Chemical Family: A blend of non-linear alcohols and ether acetate.

Packaged By: Micro Care Corp., 595 John Downey Drive, New Britain, CT 06051 USA CAGE/FSCM: OATV9

Emergency Telephone: CHEMTREC (800) 424-9300

2. Composition/Information on Ingredients

Active Ingredients

Chemical Name	Wt.%Range	TLV Units
Proprietary Non-Linear Alcohol	70.0-80.0	None Established

Proprietary ether Acetate 15.0-30.0 None established

None of the ingredients are regulated as hazardous substances per 40 CFR 302 or 40 CFR 372.65. All components of this material are listed on the TSCA inventory. Specific details of the blend are recorded as a trade secret under New Jersey regulations TSRN-80100425-5005p and TSRN-80100425-5006p.

3. Hazard Identification

Emergency Overview: Clear pale yellow liquid with mild alcohol odor. Liquid will irritate eyes and skin under repeated or prolonged exposure. Product vapors can be moved by air currents and ignited by ignition sources distant from product handling point. Keep away from children.

Potential Health Effects

Eyes: Vapor contact: May cause irritation with discomfort, tearing or blurring of vision. Liquid contact: Will irritate eyes with possible corneal injury. Persons wearing contact lenses should wear chemical protective safety glasses when exposed to this product.

Skin: Prolonged or repeated contact can cause local redness, defatting of skin leading to dryness and cracking of skin. This material may aggravate existing dermatitis.

Ingestion: Can cause severe irritation of the gastrointestinal tract with nausea, vomiting, abdominal cramps, diarrhea, dizziness, headache, weakness, drowsiness and unconsciousness.

Inhalation: At low concentration levels: may cause mild irritation to nose and throat with coughing, discomfort and shortness of breath.

Medical Conditions Aggravated by Exposure: Preexisting disease of the heart, lungs, skin and eyes.

4. First Aid Measures

Eyes: Immediately flush with water. Remove any contact lenses and continue flushing for 15 minutes, lifting eyelids occasionally until no evidence of the chemical remains. If irritation develops or persists call a physician.

Skin: Wash promptly with soap and water. Remove and wash contaminated clothing and shoes before reuse.

Ingestion: If conscious, immediately give 2-4 glasses of water and induce vomiting. Do not give stimulants. Never give anything by mouth to an unconscious person. Call a physician.

Note to physicians: Activated charcoal slurry may be administered. To prepare activated charcoal slurry, suspend 50 grams activated charcoal in 400 mL of water and mix thoroughly. Administer 5 mL/kg, or 350 mL for average adult. There is no specific antidote to overexposure. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient. Immediate medical attention for acute overexposure is required.

Inhalation: Remove to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do not give Epinephrine. Call a physician.

5. Firefighting Measures

Flash Point: 183° F / 84° C, Tag Closed Cup

Flammable Limits in Air: LL = 1.5%; UL = 9.7%

Extinguishing Media: Use dry chemical, "alcohol" foam, CO₂; water may be ineffective, but water should be used to keep fire exposed containers cool. If a spill or leak has not ignited, use water spray to disperse vapors and protect persons attempting to stop leak. Water may be used to flush spills away from exposures and to dilute spills to nonflammable mixtures.

Special Firefighting Procedures: Evacuate personnel. Keep containers cool. Wear self contained breathing apparatus (SCBA) and full protective equipment.

6. Accidental Release Measures

Spill or Leak: Evacuate area, absorb spilled liquid with commercial, nonflammable absorbent i.e. sand, vermiculite. Remove unprotected personnel. Protected personnel should remove ignition sources and shut off fire sources. Provide ventilation. Shovel (spark proof) absorbent material into drums and close. Do not flush to sewer.

7. Handling and Storage

Avoid breathing vapors or mist. Use only with adequate ventilation. Avoid repeated or prolonged contact with eyes, skin or clothing. Wash thoroughly after handling. Do not store in direct sunlight. Store in cool dry place, away from heat, sparks or flames which may generate toxic decomposition products. Vapors are heavy and may concentrate in low poorly ventilated areas.

8. Exposure Controls/Personal Protection

Respiratory Protection: Use only with adequate ventilation. Keep container tightly closed. Use approved NIOSH self-contained or supplied air respirators for emergencies and in situations where air may be displaced by vapors.

Eye Protection: Use chemical protective safety glasses.

Protective Clothing: Where there is potential for skin contact, use appropriate impervious gloves, apron, pants and jacket.

NFPA, NPCA-HIMIS RATING:

Health	1
Flammability	2
Reactivity	0

Personal Protection rating to be supplied by user depending on use conditions.

9. Physical and Chemical Properties

Physical Form:	Clear pale yellow liquid
Odor:	Mild alcohol-like
Boiling Point:	95-105° C / 203-221° F
pH:	Not determined
Solubility in Water:	Complete
Specific Gravity:	1.02 @ 15° C / 60° F
% Volatile by Weight:	100
Vapor Pressure:	0.4 mm/Hg
Vapor Density (air=1):	3.5 Calculated

10. Reactivity

Chemical Stability: Material is stable.

Hazardous Polymerization: Will not occur.

Incompatibilities: Avoid strong acids, strong oxidizers and strong alkalis.

Decomposition Products: Burning may produce carbon monoxide and/or carbon dioxide.

11. Toxicological Information

Based on available data, repeated exposures are not anticipated to cause any significant adverse effects.

Routes of Entry:	Inhalation: Yes
	Skin: Yes
	Ingestion: Yes

Health Hazards (Acute and Chronic)

Proprietary Non-Linear Alcohol: Oral: Rat (LD50): 1600-5250 mg/kg; mouse (LD50): 2300 mg/kg; Guinea Pig (LD50): 800-3000 mg/kg. Animal studies have shown that long-term force feeding in high concentrations has caused adverse effects to reproductive systems in rats. The effects are similar to the effects noted with other alcohols (specifically, isopropyl alcohol and ethyl alcohol). No evidence has been found with other species.

Intravenous: Rabbit (LD50): 725 mg/kg. **Skin:** Guinea Pig (LD50): 5000 mg/kg. Intraperitoneal: Guinea Pig (LD50): 400 mg/kg; Rat (LD50): 400-1000 mg/kg Inhalation: Rat (LD50): 4700 ppm/4 hours; Rat (LD0/3): 655 ppm/6 hours; Rat (LD2/3): 12,650 ppm/6hours.

Carcinogenicity: None of the components present are listed by IARC, NTP, OSHA as a carcinogen.

12. Ecological Information

This material is not expected to be toxic to aquatic life.

13. Disposal Considerations

Waste Disposal: Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial and Local regulations.

14. Transportation Information

Transport for Liquid Packaging:

Ground Transport: Not Hazardous/Not Regulated

Air Transport: Contact MicroCare for information.

15. Regulatory Information

Section 313 Supplier Information: This material contains the following toxic chemicals subject to the emergency reporting requirements of Section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40 CFR 372:

CAS#	Chemical Name	% by Weight
	none	

This information must be included in all MSDSs that are copied and distributed for this material.

Title III Hazard Communications Sections 311, 312

Acute	Yes
Chronic	Yes
Fire	Yes
Reactivity	No

16. Other Information

For additional information, contact Tech Support at Micro Care: Telephone (860) 827-0626 or email: techsupport@microcare.com