

MATERIAL SAFETY DATA SHEET

STARCOOL 110C

METALWORKING FLUID CONCENTRATE

| Section 1. Chemical Product and Company Identification | |
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| Product Name: StarCool 110C | Generic Name: Metalworking Fluid |
| Manufacturer: STARCHEM 4455 Bethany Road Mason, OH 45040 | Emergency Telephone Number: 1-800-424-9300 Information Telephone Number: 1-513-229-7827 |
| | Date Prepared: 12/05/2006 MSDS No.: 183 |
| Material Uses: Coolant and lubricant for metalworking processes | |

| Section 2. Hazardous Ingredient/Identity Information | | |
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| HAZARDOUS INGREDIENTS | CAS # | RANGE, % |
| Aminomethylpropanol | 124-68-5 | 10 - 20 |
| Dicarboxylic acid mixture | 72162-23-3 | 5 - 10 |
| Neodecanoic acid | 26896-20-8 | 1 - 5 |
| Benzotriazole | 95-14-7 | 1 - 5 |
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| Section 3. Hazard Identity | | |
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| Product is a primary eye irritant. Product is alkaline, and corrosive to aluminum. Highway spills could result in slippery conditions. No other significant health effects are associated with this product. | | |
| | Concentrated Product | Diluted Product in Use |
| Inhalation | Not applicable | Upper respiratory irritation may occur on extended exposure to mists |
| Eye Contact | Product is a primary eye irritant | Will cause a stinging sensation in the eye |
| Skin Contact | Product is not a primary skin irritant | Not irritating to the skin when used as recommended |
| Ingestion | Not orally toxic | Swallowing small amounts is not expected to cause injury |
| Exposure to in-use mist can be minimized by proper ventilation, and mist collectors. | | |
| Mild skin irritation may be experienced when the mix concentration is too strong. | | |
| Contact STARCHEM at 1-513-229-7827 for specific recommendations. | | |
| Carcinogen Listings | NTP: No | IARC: No OSHA: No |
| Signs and symptoms of exposure: Eye injury may occur from contact with concentrated product. Skin irritation can occur from improper handling or use of concentrate or mix. | | |
| Medical conditions generally aggravated by exposure: Existing skin irritation may worsen. | | |

| Section 4. Emergency and First Aid Measures | |
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| Eyes: In case of eye contact with the concentrated product or mix, flush immediately with running water for 15 minutes. Get prompt medical attention. | |
| Skin contact: In case of skin contact with concentrated product, wash with water as soon as possible. Mix is not irritating to the skin when used as recommended. | |
| Ingestion: Do not induce vomiting if concentrate or mix is swallowed. Dilute by drinking water or milk, and immediately contact a physician. Swallowing small amounts of mix is not expected to cause injury. | |
| Inhalation: Not expected to be a primary route of exposure for the concentrate. Inhalation of mist can occur. OSHA has set a 15 mg/M ³ PEL as a nuisance level for airborne particulates. NIOSH has set a 0.5 mg/M ³ REL for metalworking fluid mist. | |

| Section 5. Fire and Explosion Data | | | |
|---|---------------|---------------------------|-------------------|
| Flash Point (COC), °F: NA | | | |
| Flammable Limits: | | | |
| Lower Explosive Limit: NA | | Upper Explosive Limit: NA | |
| Extinguishing Media: NA | | | |
| Special Fire Fighting Procedure: None | | | |
| Unusual Fire and Explosion Hazards: None | | | |
| Hazardous Combustion Products: Smoke, fumes, and oxides of carbon and nitrogen | | | |
| NFPA Ratings | Health | Flammability | Reactivity |
| | 1 | 0 | 0 |

| Section 6. Accidental Release Measures |
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| Contain the spill, and collect on absorbent material. Discard according to Federal, state and local regulations. |

| Section 7. Handling and Storage |
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| Use only as recommended by STARCHEM. Avoid all contact of concentrate with eyes or skin. Do not swallow. If frozen, product separates. Thaw completely at room temperature and stir thoroughly prior to use. |
| Other Precautions - Contains amines. Do not add sodium nitrite or other nitrosating agents to the concentrate or mix due to the potential for nitrosamine formation. |

| Section 8. Exposure Control/Personal Protection |
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| Respiratory Protection: Under conditions which generate mists, observe all OSHA, ACGIH and NIOSH exposure guidelines. If an exposure guideline is exceeded, use a NIOSH-approved respirator as recommended by a qualified industrial hygienist. |
| Personal Protection: Safety glasses, work apparel, and impervious gloves. Wear goggles when handling product concentrate. |
| Engineering Controls: Normal shop ventilation is adequate for most applications. However, when high mist levels are generated, NIOSH recommends mist reduction through improved ventilation, process changes, and the use of mist collectors. |

| Section 9. Physical/Chemical Characteristics | | | |
|---|--------|----------------------------|-------------------------|
| Boiling Point | 212 °F | Evaporation Rate | Like water when diluted |
| Specific Gravity | 1.04 | Solubility in Water | 100% miscible |
| Vapor Pressure (mm Hg) | ND | Appearance/Odor | Clear/Chemical |
| Melting Point | ND | pH (concentrate) | 9.6 |
| Vapor Density | ND | pH (5.0% mix) | 9.3 |

| Section 10. Stability/Reactivity | |
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| Stability: | Stable |
| Conditions to Avoid: | NA |
| Materials to Avoid: | Avoid contact with strong acids or oxidizers. |
| Hazardous Polymerization: | Will not occur. |
| Combustion Products: | Smoke, fumes, and oxides of carbon and nitrogen |

| Section 11. Disposal Considerations | |
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| For Used Mix: | Disposal procedures must comply with Federal, state, county, and local regulations. |
| For Unused Concentrate: | Concentrate is not a hazardous waste as defined by 40 CFR 261. |

| Section 12. Transport Information | | |
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| | Hazardous Materials (49 CFR 172.101) | Hazard Class (49 CFR 172.101) |
| By Land | Not a hazardous material | NA |
| BY Air or Vessel (49 CFR 175-176) | Corrosive Liquid, n.o.s. (contains ethanolamines) UN1760 | Corrosive |

| Section 13. Regulatory Information | | | | | |
|---|-----------------------|---------------------|----------------------|----------------------|-----------------------|
| EXPOSURE GUIDELINES | | | | | |
| REGULATED MATERIAL | NIOSH REL | OSHA PEL | OSHA STEL | ACGIH TLV | ACGIH STEL |
| Metalworking Fluid Mist | 0.5 mg/M ³ | | | | |
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| EPCRA (SARA) TITLE III Extremely Hazardous Substances (302): NA | | | | | |
| Hazardous Substances (311, 312): Product concentrate is a hazardous substance as defined under the OSHA Hazard Communication Standard and may be reportable under the provisions of SARA Sections 311 and 312. | | | | | |
| HAZARD CATEGORIES | | | | | |
| Acute Health: Yes | | | Fire: No | | |
| Chronic Health: No | | | Reactive: No | | |
| RCRA: Product concentrate is not a hazardous waste as defined by 40 CFR 261. | | | | | |
| TSCA: All of the ingredients in this product are on the TSCA inventory. | | | | | |
| State Right-to-Know: Many states have enacted Right-To-Know laws that require information beyond that mandated by federal laws. The information in this sheet may not meet every state's requirements. | | | | | |
| Toxic Substances (313): Components present in the product at levels that could require reporting. | | | | | |
| CHEMICAL NAME | CAS # | MAX. % | COMMENTS | | |
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NOTE: The opinions expressed herein are those of STARCHEM and of their suppliers. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the conditions of use of this product are beyond the control of STARCHEM, no guarantee or representation, expressed or implied, is made. It is the user's obligation to determine the conditions of safe use of this product.