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MATERIAL SAFETY DATA SHEET

Date-Issued: 09/21/2004
MSDS Ref. No: ICC-02068
Revision No: New MSDS

INTERCOOL NFE

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: INTERCOOL NFE
GENERAL USE: Heat Transfer Fluid
PRODUCT DESCRIPTION: Heat Transfer Fluid
PRODUCT CODE: 243600
PRODUCT FORMULATION NAME: INTERCOOL NFE
CHEMICAL FAMILY: Glycol
GENERIC NAME: Inhibited Ethylene Glycol
MANUFACTURER

Interstate Chemical Company, Inc.
Corporate Headquarters-Hermitage
2797 Freedland Road
Hermitage, PA 16148
Contact: Carl Puntureri, Corporate VP
Product Stewardship: 724-981-3771
Transportation: 724-981-3771

24 HR. EMERGENCY TELEPHONE NUMBERS
(800) ICC-CHEM

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>Wt.%</u>	<u>CAS#</u>	<u>EINECS#</u>
Ethylene Glycol	>90	000107-21-1	
Corrosion Inhibitors and Buffers	<10		
Yellow Dye	<1		

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE: Substance can cause skin, eye, and respiratory tract irritation/burning.

IMMEDIATE CONCERNS: Warning! Harmful or fatal if swallowed. Harmful if inhaled or absorbed through skin. May cause allergic skin reaction. May cause irritation to skin, eyes, and respiratory tract. Affects central nervous system.

POTENTIAL HEALTH EFFECTS

EYES: May cause irritation, pain, eye damage

SKIN: Minor skin irritation and penetration may occur

INGESTION: This material may be harmful or fatal if swallowed. Lethal dose in humans is 100 ml (3-4 ounces).

INHALATION: Vapor inhalation is generally not a problem unless heated or misted.

4. FIRST AID MEASURES

EYES: Immediately flush eyes with plenty of water for at least 15 minutes. Get immediate medical attention.



INTERCOOL NFE

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SKIN: Remove contaminated clothing. Wash with soap and water. Get medical attention.

INGESTION: If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

NOTES TO PHYSICIAN: Give sodium bicarbonate intravenously to treat acidosis.

5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: (230°F)ASTM D56

FLAMMABLE LIMITS: 3.2 to 15.3

AUTOIGNITION TEMPERATURE: (752°F)

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Absorb liquid and place in sealed container for disposal.

LARGE SPILL: Ventilate area of leak or spill. Remove all sources of ignition. Contain and recover liquid when possible. Do not flush to sewer.

ENVIRONMENTAL PRECAUTIONS

WATER SPILL: When released into water, this material is expected to readily biodegrade.

LAND SPILL: When released into the soil, this material is expected to readily biodegrade.

AIR SPILL: When released into the air, this material is expected to have a half-life between 1 and 10 days.

7. HANDLING AND STORAGE

GENERAL PROCEDURES: Avoid contact with eyes, skin, and clothing.

HANDLING: Store in adequate storage area at ambient temp.

STORAGE: Store in a cool dry place.

STORAGE TEMPERATURE: (20°F) minimum to (150°F) maximum

LOADING TEMPERATURE: (20°F) minimum to (150°F) maximum

SHELF LIFE: Greater than one year when stored in its original container at the recommended storage temperature with the bungs closed.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**EXPOSURE GUIDELINES:**

OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200)

EXPOSURE LIMITS**Chemical Name**

OSHA PEL **ACGIH TLV** **Supplier OEL**
ppm **mg/m³** **ppm** **mg/m³** **ppm** **mg/m³**

Ethylene Glycol

TWA 50
ppm^[1]

50
ppm^[2]

OSHA TABLE COMMENTS:



INTERCOOL NFE

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1. Ceiling
2. Ceiling (vapor)

PERSONAL PROTECTIVE EQUIPMENT**EYES AND FACE:** Wear safety glasses with side shields (or goggles) and a face shield.**SKIN:** Wear suitable protective clothing and gloves.**RESPIRATORY:** A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.**PROTECTIVE CLOTHING:** Wear protective gloves and clean body-covering clothing. Chemically resistant protective clothing and boots may be required.**9. PHYSICAL AND CHEMICAL PROPERTIES****PHYSICAL STATE:** Liquid**ODOR:** Odorless**APPEARANCE:** Clear, yellow liquid.**COLOR:** Fluorescent yellow.**pH:** 8.0 to 9.5**PERCENT VOLATILE:** 0 at (60°F)**VAPOR PRESSURE:** 0.06 mmHg at (68°F)**VAPOR DENSITY:** 2.14 (Air=1)**BOILING POINT:** (388°F)**FREEZING POINT:** (9°F)**MELTING POINT:** (9°F)**SOLUBILITY IN WATER:** Miscible**EVAPORATION RATE:** <1 (n-Butyl Acetate=1)**DENSITY:** 9.17 at (68°F)**SPECIFIC GRAVITY:** 1.1 (water=1) at (68°F)**VISCOSITY:** 20Centipoise at (68°F)**WEIGHT PER VOLUME:** 9.17 lbs/gal**10. STABILITY AND REACTIVITY****STABLE:** YES**HAZARDOUS POLYMERIZATION:** NO**CONDITIONS TO AVOID:** Oxidizing materials.**HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon Dioxide and Water Vapor**INCOMPATIBLE MATERIALS:** Strong Oxidizers**11. TOXICOLOGICAL INFORMATION****ACUTE****EYES:** 500 mg/24H**ORAL LD₅₀:** 4700 mg/kg (mice)**REPRODUCTIVE EFFECTS:** Has shown teratogenic effects in laboratory animals.**12. ECOLOGICAL INFORMATION**

INTERCOOL NFE

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ENVIRONMENTAL DATA: Do not flush to sewer.

13. DISPOSAL CONSIDERATIONS**DISPOSAL METHOD:** Whatever cannot be saved for recovery of recycling should be managed in an appropriate and approved waste disposal facility.**EMPTY CONTAINER:** Dispose of container and unused contents in accordance with federal, state and local requirements.

14. TRANSPORT INFORMATION**DOT (DEPARTMENT OF TRANSPORTATION)****PROPER SHIPPING NAME:** Environmentally Hazardous Substances, Liquids, N.O.S.**TECHNICAL NAME:** Contains: Ethylene Glycol**PRIMARY HAZARD CLASS/DIVISION:** 9**UN/NA NUMBER:** UN3082**PACKING GROUP:** III**REPORTABLE QUANTITY (RQ) UNDER CERCLA:** 5000 lbs**PLACARDS:** Class 9**NAERG:** 171**OTHER SHIPPING INFORMATION:** Regulated in Bulk Only

15. REGULATORY INFORMATION**UNITED STATES****DOT LABEL SYMBOL AND HAZARD CLASSIFICATION**

Harmful if swallowed.

DOT Class 9

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)**311/312 HAZARD CATEGORIES:** Immediate (Acute) Health Hazard**FIRE: YES PRESSURE GENERATING: NO REACTIVITY: NO ACUTE: YES CHRONIC: YES****313 REPORTABLE INGREDIENTS:** Ethylene Glycol (107-21-1)**CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)****CERCLA REGULATORY:** Ethylene Glycol**CERCLA RQ:** 5,000 lbs**REPORTABLE SPILL QUANTITY:** => 5051 lbs**TSCA (TOXIC SUBSTANCE CONTROL ACT)****TSCA REGULATORY:** This material is listed on the EPA TSCA Inventory of Chemical Substances**STATES WITH SPECIAL REQUIREMENTS****Yellow Dye** California Proposition 65:

16. OTHER INFORMATION**REASON FOR ISSUE:** Revised MSDS

INTERCOOL NFE

APPROVED BY: Jerry Johns **TITLE:** Environmental Analyst

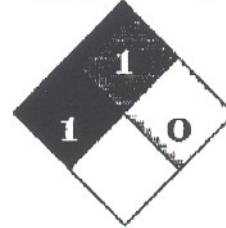
PREPARED BY: F. James Corbett

INFORMATION CONTACT: 800-422-2436 x 1156

HMIS RATING

HEALTH:	1
FLAMMABILITY:	1
PHYSICAL HAZARD:	0
PERSONAL PROTECTION:	B

NFPA CODES



MANUFACTURER DISCLAIMER: Interstate Chemical Company, Inc. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.



MATERIAL SAFETY DATA SHEET

Customer's Use



Date-Issued: 01/13/2005
 MSDS Ref. No: ICC-02134
 Date-Revised: 03/02/2005
 Revision No: 3

INTERCOOL NFP**1. PRODUCT AND COMPANY IDENTIFICATION**

PRODUCT NAME: INTERCOOL NFP
GENERAL USE: Heat Transfer Fluid
PRODUCT DESCRIPTION: Inhibited Propylene Glycol
PRODUCT CODE: 242200
PRODUCT FORMULATION NAME: INTERCOOL NFP
CHEMICAL FAMILY: Glycol
GENERIC NAME: Inhibited Propylene Glycol
MANUFACTURER

24 HR. EMERGENCY TELEPHONE NUMBERS

800-ICC-CHEM

Interstate Chemical Company, Inc.
 Corporate Headquarters-Hermitage
 2797 Freedland Road
 Hermitage, PA 16148

Contact: F. James Corbett, Dir. of Quality & EH&S

Product Stewardship: 724-981-3771

Transportation: 724-981-3771

COMMENTS: This product contains propylene glycol which is on the FDA's GRAS (GENERALLY REGARDED AS SAFE) list.

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>Wt.%</u>	<u>CAS#</u>	<u>EINECS#</u>
Propylene Glycol	>90	00057-55-6	
Corrosion Inhibitors and Buffers	<10		
Yellow Dye	<1		

3. HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW**

PHYSICAL APPEARANCE: Substance can cause skin, eye, and respiratory tract irritation/burning.

IMMEDIATE CONCERNS: Warning! May be harmful if swallowed. Maybe harmful if inhaled or absorbed through skin. May cause allergic skin reaction. May cause irritation to skin, eyes, and respiratory tract. Affects central nervous system.

POTENTIAL HEALTH EFFECTS

EYES: May cause irritation, pain, eye damage

SKIN: Minor skin irritation and penetration may occur

INGESTION: Relatively non-toxic. Ingestion of sizable amount (over 100ml) may cause some gastrointestinal upset and temporary central nervous system depression. Effects appear more severe in individuals with kidney problems

INHALATION: Vapor inhalation is generally not a problem unless heated or misted.

4. FIRST AID MEASURES

EYES: Immediately flush eyes with plenty of water for at least 15 minutes. Get immediate medical attention.

SKIN: Remove contaminated clothing. Wash with soap and water. Get medical attention.

INGESTION: Not expected to require first aid measures. Give several glasses of water to drink to dilute. If large amounts were swallowed, get medical advice.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: (210°F)ASTM D56

FLAMMABLE LIMITS: 2.6 to 12.5

AUTOIGNITION TEMPERATURE: (700°F)

EXTINGUISHING MEDIA: Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material.

OTHER CONSIDERATIONS: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Move exposed containers from fire area, if it can be done without risk. Use water to keep fire-exposed containers cool.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Absorb liquid and place in sealed container for disposal.

LARGE SPILL: Ventilate area of leak or spill. Remove all sources of ignition. Contain and recover liquid when possible. Do not flush to sewer.

ENVIRONMENTAL PRECAUTIONS

WATER SPILL: When released into water, this material is expected to readily biodegrade.

LAND SPILL: When released into the soil, this material is expected to readily biodegrade.

AIR SPILL: When released into the air, this material is expected to have a half-life between 1 and 10 days.

GENERAL PROCEDURES: Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer!

7. HANDLING AND STORAGE

GENERAL PROCEDURES: Protect container from physical damage. Store in a cool, dry, ventilated area away from sources of heat, moisture, and incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

HANDLING: Store in adequate storage area at ambient temp.

STORAGE: Store in a cool dry place. Keep from freezing.

STORAGE TEMPERATURE: (20°F) minimum to (150°F) maximum

LOADING TEMPERATURE: (20°F) minimum to (150°F) maximum

LOADING/UNLOADING VISCOSITY: ~60

SHELF LIFE: Greater than one year when stored in its original container at the recommended storage temperature with the bungs closed.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Wear safety glasses with side shields (or goggles) and a face shield.

SKIN: Wear suitable protective clothing and gloves.

RESPIRATORY: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

PROTECTIVE CLOTHING: Wear protective gloves and clean body-covering clothing. Chemically resistant protective clothing and boots may be required.

OTHER USE PRECAUTIONS: If the exposure limit is exceeded, a half-face respirator with an organic vapor cartridge and particulate filter (NIOSH type P95 or R95 filter) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece respirator with an organic vapor cartridge and particulate filter (NIOSH P100 or R100 filter) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. Please note that N series filters are not recommended for this material. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid

ODOR: Odorless

APPEARANCE: Clear, yellow liquid.

COLOR: Fluorescent yellow.

pH: 8.0 to 9.5

PERCENT VOLATILE: Not Determined

VAPOR PRESSURE: ~0.129 mmHg at (77°F)

VAPOR DENSITY: 2.6 (Air=1)

BOILING POINT: (370°F)

FREEZING POINT: < -60°C Freezing Point Chart

MELTING POINT: -60°C

SOLUBILITY IN WATER: Miscible

EVAPORATION RATE: <1 (n-Butyl Acetate=1)

DENSITY: 8.74 at (60°F)

SPECIFIC GRAVITY: 1.048 (water=1) at 20°C

VISCOSITY: 20Centipoise at (68°F)

WEIGHT PER VOLUME: 8.74 lbs/gal

10. STABILITY AND REACTIVITY

STABLE: YES

HAZARDOUS POLYMERIZATION: NO

CONDITIONS TO AVOID: Oxidizing materials.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon dioxide and carbon monoxide may form when heated to decomposition. Aldehydes or lactic, pyruvic or acetic acids may also be formed.

INCOMPATIBLE MATERIALS: Heat, flames, ignition sources and incompatibles.

11. TOXICOLOGICAL INFORMATION

GENERAL COMMENTS: Oral rat LD50: 20g/kg. Skin rabbit LD50: 20.8g/kg. Irritation: Eye rabbit/Draize, 500 mg/24H mild. Investigated as a mutagen and reproductive effector.

12. ECOLOGICAL INFORMATION

CHEMICAL FATE INFORMATION: When released into the soil, this material is expected to readily biodegrade. When released into the soil, this material is expected to leach into groundwater. When released into water, this material is expected to readily biodegrade. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to have a half-life between 1 and 10 days.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Whatever cannot be saved for recovery of recycling should be managed in an appropriate and approved waste disposal facility.

EMPTY CONTAINER: Dispose of container and unused contents in accordance with federal, state and local requirements.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME: Not Regulated by DOT

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES:

FIRE: NO PRESSURE GENERATING: NO REACTIVITY: NO ACUTE: YES CHRONIC: NO

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA REGULATORY: This material is listed on the EPA TSCA Inventory of Chemical Substances

STATES WITH SPECIAL REQUIREMENTS

Yellow Dye **California Proposition 65:**

16. OTHER INFORMATION

REASON FOR ISSUE: Revised MSDS

APPROVED BY: Jerry Johns **TITLE:** Environmental Analyst

PREPARED BY: F. James Corbett

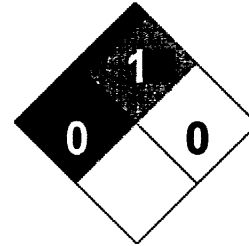
INFORMATION CONTACT: 800-422-2436 x 1156

REVISION SUMMARY Revision #: 3 This MSDS replaces the February 25, 2005 MSDS. Any changes in information are as follows: In Section 1 Section 1 Footnotes

HMIS RATING

HEALTH:	0
FLAMMABILITY:	1
PHYSICAL HAZARD:	0
PERSONAL PROTECTION:	B

NFPA CODES



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Material Safety Data Sheet # 313

Hercules Chemical Company Inc.
 111 South Street
 Passaic NJ 07055-7398
 Information Telephone: 1-800 221-9330
 Internet: www.herchem.com

NFPA	HMIS	PPE	Transport Symbol						
	<table border="1"> <tr> <td>Health Hazard</td> <td>0</td> </tr> <tr> <td>Fire Hazard</td> <td>0</td> </tr> <tr> <td>Reactivity</td> <td>0</td> </tr> </table>	Health Hazard	0	Fire Hazard	0	Reactivity	0		
Health Hazard	0								
Fire Hazard	0								
Reactivity	0								

Preparation Date 00000000

Revision Date Apr 17, 2012

Revision Number 1

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name Hercules Chrome 100
Recommended Use Chrome

Supplier Address
 Hercules Chemical Company, Inc.
 111 South Street
 Passaic, NJ 07055
 93300000

Company Emergency Phone Number 18002219330
Emergency Telephone Number 933000009300

2. HAZARDS IDENTIFICATION

Emergency Overview
 The characteristics of this substance are considered to be hazardous.
Appearance Chrome **Physical State** Solid **Odor** Odorless

Potential Health Effects

Principle Routes of Exposure Inhalation, Skin contact

Acute Effects
Eyes Moderate irritation
Skin Moderate skin irritation and dermatitis
Inhalation None
Ingestion None

Chronic Effects None observed or anticipated

Aggravated Medical Conditions None

Potential Environmental Effects See section 1 for additional information

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12. ECOLOGICAL INFORMATION

Ecotoxicity

.....

Chemical Name	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
..... 19000 10 30 10000

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method

..... as specified, is a hazardous waste according to Federal regulations 40 CFR 111.101. This material should be placed in a hazardous waste container. The following additions are made to this material, or the material is processed or otherwise altered. 40 CFR 111.101 does not apply to the altered material as a hazardous waste. The appropriate state, regional, or local regulations for additional requirements.

Contaminated Packaging

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14. TRANSPORT INFORMATION

- DOT**reclassified
- TDG**reclassified
- MEX**reclassified
- ICAO**reclassified
- IATA**reclassified
- IMDG/IMO**reclassified

