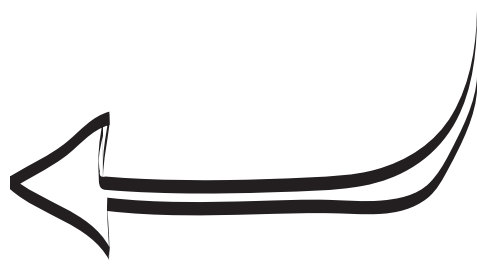




Please use the bookmarks on the left to find the appropriate MSDS for your concentration level.



MATERIAL SAFETY DATA SHEET

Customer's Use



Date Issued: 08/31/2004

MSDS No: ICC-00594

Date-Revised: 12/07/2011

Revision No: 8

INTERCOOL OP-100

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: INTERCOOL OP-100

GENERAL USE: Heat Transfer Fluid

PRODUCT DESCRIPTION: Concentrated Heat Transfer Fluid

PRODUCT CODE: 22820

PRODUCT FORMULATION NAME: INTERCOOL OP-100

CHEMICAL FAMILY: Glycol

MOLECULAR FORMULA: C₂H₄O₂

GENERIC NAME: Inhibited Ethylene Glycol

ACTIVE INGREDIENT(S): Ethylene Glycol; Dipotassium Phosphate

MANUFACTURER

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

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

E-Mail: 724-981-3771

Product Stewardship: 800-422-2436

Alternate Emergency Phone: 724-981-3771

Transportation: 800-422-2436

Service Number: 800-422-2436

24 HR. EMERGENCY TELEPHONE NUMBERS

(800) ICC-CHEM

COMMENTS: Dispose of in accordance with all applicable local, state, and federal regulations. For assistance with your waste management/environmental service needs including waste disposal and recycling, please contact Interstate Chemical Environmental Services at 800-422-2436 ext. 1703 or email us at environmentalservices@interstatechemical.com

2. HAZARDS IDENTIFICATION


HAZARD DESIGNATION

"N" - Dangerous for the environment

GHS CLASSIFICATIONS

Environmental
Aquatic Toxicity

GHS LABEL

 Environment	
WARNING	

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE: Substance may cause skin and eye irritation.

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

POTENTIAL HEALTH EFFECTS

EYES: May cause irritation.

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.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt. %	CAS
Ethylene Glycol	> 90	107-21-1
Dipotassium Phosphate	1 - 10	7758-11-4
Yellow Dye	0.001 - 0.1	6417-85-2

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: 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. Keep from freezing.

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 CFR1910.1200)					
		EXPOSURE LIMITS			
		OSHA PEL		ACGIH TLV	
Chemical Name		ppm	mg/m ³	ppm	mg/m ³
Ethylene Glycol	TWA	50 ppm [1]	[1]	50 ppm [2]	[2]
OSHA TABLE COMMENTS:					
1. Ceiling					
2. Ceiling (vapor)					

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

SKIN: Wear appropriate protective gloves to prevent skin exposure.

RESPIRATORY: Not required for properly ventilated areas. If there is potential for inhalation of vapor or mist, use an appropriate NIOSH approved respirator. Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

PROTECTIVE CLOTHING: Wear appropriate protective clothing to prevent skin exposure.

WORK HYGIENIC PRACTICES: Establish good personal hygiene and work practices. Always wash hands and face before eating, drinking or smoking. Provide safety shower and eye wash station in work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

Chemical Name	Flash Point (°C)	Solubility in Water	Specific Gravity
Ethylene Glycol	230	Complete	1.113

PHYSICAL STATE: Liquid

ODOR: Odorless

APPEARANCE: Clear, yellow liquid.

COLOR: Fluorescent yellow

pH: 8.0 to 9.5

PERCENT VOLATILE: 0 at (68°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)

FLASHPOINT AND METHOD: (230°F) ASTM D56

SOLUBILITY IN WATER: Miscible

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

DENSITY: 9.17 at (60°F)

SPECIFIC GRAVITY: 1.100 (water=1) at (60°F)

VISCOSITY #1: 20 Centipoise at (68°F)

WEIGHT PER VOLUME: 9.17 lbs/gal

COMMENTS: The information in this section is calculated from specific known information about this product. This information should not be used as exact test results or specifications. The information is provided as typical properties for this product.

10. STABILITY AND REACTIVITY

STABLE: Yes

HAZARDOUS POLYMERIZATION: No

STABILITY: Stable under ordinary conditions of use and storage.

POLYMERIZATION: Product will not undergo polymerization.

CONDITIONS TO AVOID: Oxidizing materials.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon Dioxide and Water Vapor

INCOMPATIBLE MATERIALS: Strong Oxidizers

11. TOXICOLOGICAL INFORMATION

ACUTE

Chemical Name	ORAL LD ₅₀ (rat)	DERMAL LD ₅₀ (rabbit)
Ethylene Glycol	4700 mg/kg	9530 mg/kg

EYES: 500 mg/24H

ORAL LD₅₀: 4700 mg/kg (mice)

REPRODUCTIVE EFFECTS: Oral administration of ethylene glycol to pregnant experimental animals has been shown to cause birth defects in the offspring. These effects were not

seen when ethylene glycol was administered by dermal application or by inhalation.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: Do not flush to sewer.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Whatever cannot be saved for recovery or 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, Liquid, N.O.S.

TECHNICAL NAME: Contains: Ethylene Glycol

PRIMARY HAZARD CLASS/DIVISION: 9

UN/NA NUMBER: UN3082

PACKING GROUP: III

NAERG: 171

REPORTABLE QUANTITY (RQ) UNDER CERCLA: 5000 lbs

PLACARDS: Class 9

OTHER SHIPPING INFORMATION: **REGULATED IN BULK ONLY
(GREATER THAN 119 GALLONS)**

CANADA TRANSPORT OF DANGEROUS GOODS

SHIPPING NAME: Not regulated

15. REGULATORY INFORMATION

UNITED STATES

DOT LABEL SYMBOL AND HAZARD CLASSIFICATION



Class 9
Environmentally Hazardous Substance

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES: Immediate (Acute) Health Hazard

FIRE: No **PRESSURE GENERATING:** No **REACTIVITY:** No **ACUTE:** Yes

CHRONIC: No

313 REPORTABLE INGREDIENTS: Ethylene Glycol (107-21-1), 90% min.

EPCRA SECTION 313 SUPPLIER NOTIFICATION

Chemical Name	Wt.%	CAS
Ethylene Glycol	> 90	107-21-1

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

CERCLA REGULATORY: Ethylene Glycol

Chemical Name	Wt.%	CERCLA RQ
Ethylene Glycol	> 90	5000 lbs

CERCLA RQ: 5,000 lbs

TSCA (TOXIC SUBSTANCE CONTROL ACT)

Chemical Name	CAS
Ethylene Glycol	107-21-1

TSCA REGULATORY: The components of this blend are listed on the EPA TSCA Inventory of Chemical Substances.

TSCA STATUS: All ingredients in this mixture are in compliance with TSCA.

CANADA

WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM): Not listed on the toxic substances in schedule 1 of the Canadian Environmental Protection Act, 1999 (CEPA 1999).

DOMESTIC SUBSTANCE LIST (INVENTORY): Ingredient: Ethylene Glycol (107-21-1): Korea (Yes); DSL(Yes); NDSL(No); Phil.(Yes)

EUROPEAN COMMUNITY

EEC LABEL SYMBOL AND CLASSIFICATION



"N" - Dangerous for the environment

16. OTHER INFORMATION

REASON FOR ISSUE: Updated MSDS (Customer's Request)

APPROVED BY: F. James Corbett **TITLE:** Director of Quality and EH&S

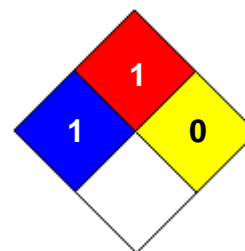
PREPARED BY: F. James Corbett

INFORMATION CONTACT: 800-422-2436 x 1136

REVISION SUMMARY: Revision #: 8. This MSDS replaces the September 22, 2011 MSDS.
Any changes in information are as follows: In Section 1: Reason for Issue

HMIS RATING

HEALTH:	<input type="checkbox"/>	1
FLAMMABILITY:	<input type="checkbox"/>	1
PHYSICAL HAZARD:	<input type="checkbox"/>	0
PERSONAL PROTECTION:	<input type="checkbox"/>	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: 01/18/2005

MSDS No: ICC-02139

Date-Revised: 12/07/2011

Revision No: 3

INTERCOOL OP-100 30/70

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: INTERCOOL OP-100 30/70

GENERAL USE: Heat Transfer Fluid

PRODUCT DESCRIPTION: Inhibited Ethylene Glycol

PRODUCT CODE: 229900

PRODUCT FORMULATION NAME: INTERCOOL OP-100 30/70

CHEMICAL FAMILY: Glycol

GENERIC NAME: Inhibited Ethylene Glycol

ACTIVE INGREDIENT(S): Ethylene Glycol

MANUFACTURER

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

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

E-Mail: 724-981-3771

Product Stewardship: 800-422-2436

Alternate Emergency Phone: 724-981-3771

Transportation: 800-422-2436

Service Number: 800-422-2436

24 HR. EMERGENCY TELEPHONE NUMBERS

800-ICC-CHEM

COMMENTS: Dispose of in accordance with all applicable local, state, and federal regulations. For assistance with your waste management/environmental service needs including waste disposal and recycling, please contact Interstate Chemical Environmental Services at 800-422-2436 ext. 1703 or email us at environmentalservices@interstatechemical.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE: Substance may cause skin and eye irritation.

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

POTENTIAL HEALTH EFFECTS

EYES: May cause irritation.

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.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt. %	CAS	EINECS
Ethylene Glycol	~ 30	107-21-1	
Deionized Water	~ 70	7732-18-5	231-791-2
Dipotassium Hydrogen Phosphate	< 10	7758-11-4	
Yellow Dye	< 1	6417-85-2	

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: 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: Not Applicable

AUTOIGNITION TEMPERATURE: Not Applicable

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. Keep from freezing.

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 CFR1910.1200)					
		EXPOSURE LIMITS			
		OSHA PEL		ACGIH TLV	
Chemical Name		ppm	mg/m ³	ppm	mg/m ³
Ethylene Glycol	TWA	50 ppm [1]	[1]	50 ppm [2]	[2]
OSHA TABLE COMMENTS:					
1. Ceiling					
2. Ceiling (vapor)					

PERSONAL PROTECTIVE EQUIPMENT

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

SKIN: (WHMIS) For brief contact, no precautions other than clean body-covering clothing should be needed. When prolonged or frequently repeated contact could occur, use chemical protective clothing made from butyl rubber. Selection of specific items such as gloves, boots, apron, full-body suit, etc. will depend on local operation.

RESPIRATORY: (WHMIS) For most conditions, no respiratory protection should be needed, however, in dusty atmospheres, use a NIOSH approved dust respirator.

PROTECTIVE CLOTHING: (WHMIS) Where splashing is possible, full chemically resistant protective clothing and boots may be required.

9. PHYSICAL AND CHEMICAL PROPERTIES

Chemical Name	Flash Point (°C)	Solubility in Water	Specific Gravity
Ethylene Glycol	230	Complete	1.113

PHYSICAL STATE: Liquid

ODOR: Odorless

APPEARANCE: Clear, yellow liquid.

COLOR: Fluorescent yellow

pH: 8.0 to 9.5

PERCENT VOLATILE: 70 at (68°F)

VAPOR PRESSURE: < 15 mmHg at (68°F)

VAPOR DENSITY: > 1 (Air=1)

BOILING POINT: (218°F)

FREEZING POINT: (+3°F)

FLASHPOINT AND METHOD: Not Applicable

SOLUBILITY IN WATER: Completely Miscible

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

DENSITY: 8.69 lbs/gal at (68°F)

SPECIFIC GRAVITY: 1.040 (water=1) at (68°F)

WEIGHT PER VOLUME: 8.69 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

Chemical Name	ORAL LD ₅₀ (rat)	DERMAL LD ₅₀ (rabbit)
Ethylene Glycol	4700 mg/kg	9530 mg/kg

EYES: 500 mg/24H

ORAL LD₅₀: 4700 mg/kg (mice)

REPRODUCTIVE EFFECTS: Has shown teratogenic effects in laboratory animals.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: Do not flush to sewer.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Whatever cannot be saved for recovery or 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, Liquid, N.O.S.

TECHNICAL NAME: Contains: Ethylene Glycol

PRIMARY HAZARD CLASS/DIVISION: 9

UN/NA NUMBER: UN3082

PACKING GROUP: III

NAERG: 171

REPORTABLE QUANTITY (RQ) UNDER CERCLA: 5000 lbs

PLACARDS: Class 9

OTHER SHIPPING INFORMATION: **REGULATED IN BULK ONLY
(GREATER THAN 119 GALLONS)**

CANADA TRANSPORT OF DANGEROUS GOODS

SHIPPING NAME: Not regulated

15. REGULATORY INFORMATION

UNITED STATES**SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)****311/312 HAZARD CATEGORIES:** Immediate (Acute) Health Hazard**PRESSURE GENERATING:** No **REACTIVITY:** No **ACUTE:** Yes**313 REPORTABLE INGREDIENTS:** Ethylene Glycol (107-21-1), 60% max.**EPCRA SECTION 313 SUPPLIER NOTIFICATION**

Chemical Name	Wt. %	CAS
Ethylene Glycol	~ 30	107-21-1

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)**CERCLA REGULATORY:** Ethylene Glycol

Chemical Name	Wt. %	CERCLA RQ
Ethylene Glycol	~ 30	5000 lbs

CERCLA RQ: 5,000 lbs**REPORTABLE SPILL QUANTITY:** => 5051 lbs**TSCA (TOXIC SUBSTANCE CONTROL ACT)**

Chemical Name	CAS
Ethylene Glycol	107-21-1

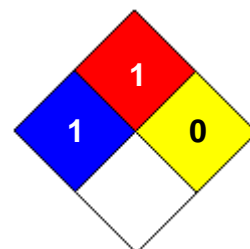
TSCA REGULATORY: This material is listed on the EPA TSCA Inventory of Chemical Substances**CANADA****WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM):** Not listed on the toxic substances in schedule 1 of the Canadian Environmental Protection Act, 1999 (CEPA 1999).**DOMESTIC SUBSTANCE LIST (INVENTORY):** Ingredient: Ethylene Glycol (107-21-1); Korea (Yes); DSL(Yes); NDSL(No); Phil.(Yes)**16. OTHER INFORMATION****REASON FOR ISSUE:** Updated MSDS (Customer's Request)**APPROVED BY:** F. James Corbett **TITLE:** Director of Quality & EH&S**PREPARED BY:** F. James Corbett**INFORMATION CONTACT:** 800-422-2436 x 1136**REVISION SUMMARY:** Revision #: 3. This MSDS replaces the June 17, 2008 MSDS. Any changes in information are as follows: In Section 1: Approved by, Title, Reason for Issue,

Information Contact, Comments

HMIS RATING

HEALTH:	<input type="checkbox"/>	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: 12/17/2004

MSDS No: ICC-02123

Date-Revised: 12/07/2011

Revision No: 3

INTERCOOL OP-100 40/60

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: INTERCOOL OP-100 40/60

GENERAL USE: Heat Transfer Fluid

PRODUCT DESCRIPTION: Heat Transfer Fluid

PRODUCT CODE: 229400

PRODUCT FORMULATION NAME: INTERCOOL OP-100 40/60

CHEMICAL FAMILY: Glycols

GENERIC NAME: Inhibited Ethylene Glycol

ACTIVE INGREDIENT(S): Ethylene Glycol

MANUFACTURER

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

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

E-Mail: 724-981-3771

Product Stewardship: 800-422-2436

Alternate Emergency Phone: 724-981-3771

Transportation: 800-422-2436

Service Number: 800-422-2436

24 HR. EMERGENCY TELEPHONE NUMBERS

800-ICC-CHEM

COMMENTS: Dispose of in accordance with all applicable local, state, and federal regulations. For assistance with your waste management/environmental service needs including waste disposal and recycling, please contact Interstate Chemical Environmental Services at 800-422-2436 ext. 1703 or email us at environmentalservices@interstatechemical.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE: Substance may cause skin and eye irritation.

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

POTENTIAL HEALTH EFFECTS

EYES: May cause irritation.

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.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt. %	CAS	EINECS
Ethylene Glycol	~ 40	107-21-1	
Deionized Water	~ 60	7732-18-5	231-791-2
Dipotassium Hydrogen Phosphate	< 10	7758-11-4	
Yellow Dye	< 1	6417-85-2	

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: 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: Not Applicable

AUTOIGNITION TEMPERATURE: Not Applicable

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. Keep from freezing.

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 CFR1910.1200)					
		EXPOSURE LIMITS			
		OSHA PEL		ACGIH TLV	
Chemical Name		ppm	mg/m ³	ppm	mg/m ³
Ethylene Glycol	TWA	50 ppm ^[1]	[1]	50 ppm ^[2]	[2]
OSHA TABLE COMMENTS: 1. Ceiling 2. Ceiling (vapor)					

PERSONAL PROTECTIVE EQUIPMENT

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

SKIN: (WHMIS) For brief contact, no precautions other than clean body-covering clothing should be needed. When prolonged or frequently repeated contact could occur, use chemical protective clothing made from butyl rubber. Selection of specific items such as gloves, boots, apron, full-body suit, etc. will depend on local operation.

RESPIRATORY: (WHMIS) For most conditions, no respiratory protection should be needed, however, in dusty atmospheres, use a NIOSH approved dust respirator.

PROTECTIVE CLOTHING: (WHMIS) Where splashing is possible, full chemically resistant protective clothing and boots may be required.

9. PHYSICAL AND CHEMICAL PROPERTIES

Chemical Name	Flash Point (°C)	Solubility in Water	Specific Gravity
Ethylene Glycol	230	Complete	1.113

PHYSICAL STATE: Liquid

ODOR: Odorless

APPEARANCE: Clear, yellow liquid.

COLOR: Fluorescent yellow

pH: 8.0 to 9.5

PERCENT VOLATILE: 60 at (60°F)

VAPOR PRESSURE: ~ 10 mmHg at (68°F)

VAPOR DENSITY: ~ 1.84 (Air=1)

BOILING POINT: (221°F) Boiling Point Chart

FREEZING POINT: (-13°F) Freezing Point Chart

FLASHPOINT AND METHOD: Not Applicable

SOLUBILITY IN WATER: Completely Miscible

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

DENSITY: 8.47 lbs/gal at (60°F)

SPECIFIC GRAVITY: 1.016 (water=1)

VISCOSITY #1: 1 Centipoise at (68°F)

WEIGHT PER VOLUME: 8.47 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**

Chemical Name	ORAL LD ₅₀ (rat)	DERMAL LD ₅₀ (rabbit)
Ethylene Glycol	4700 mg/kg	9530 mg/kg

EYES: 500 mg/24H

ORAL LD₅₀: 4700 mg/kg (mice)

REPRODUCTIVE EFFECTS: Has shown teratogenic effects in laboratory animals.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: Do not flush to sewer.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Whatever cannot be saved for recovery or 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, Liquid, N.O.S.

TECHNICAL NAME: Contains: Ethylene Glycol

PRIMARY HAZARD CLASS/DIVISION: 9

UN/NA NUMBER: UN3082

PACKING GROUP: III

NAERG: 171

PLACARDS: Class 9

OTHER SHIPPING INFORMATION: **REGULATED IN BULK ONLY
(GREATER THAN 119 GALLONS)**

CANADA TRANSPORT OF DANGEROUS GOODS

SHIPPING NAME: Not regulated

15. REGULATORY INFORMATION

UNITED STATES**SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)****311/312 HAZARD CATEGORIES:** Immediate (Acute) Health Hazard**PRESSURE GENERATING:** No **REACTIVITY:** No **ACUTE:** Yes**313 REPORTABLE INGREDIENTS:** Ethylene Glycol (107-21-1), 40% max.**EPCRA SECTION 313 SUPPLIER NOTIFICATION**

Chemical Name	Wt.%	CAS
Ethylene Glycol	~ 40	107-21-1

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)**CERCLA REGULATORY:** Ethylene Glycol

Chemical Name	Wt.%	CERCLA RQ
Ethylene Glycol	~ 40	5000 lbs

CERCLA RQ: 5,000 lbs**TSCA (TOXIC SUBSTANCE CONTROL ACT)**

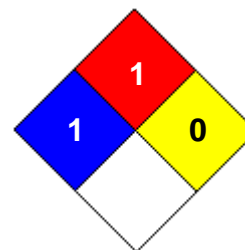
Chemical Name	CAS
Ethylene Glycol	107-21-1

TSCA REGULATORY: This material is listed on the EPA TSCA Inventory of Chemical Substances**CANADA****WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM):** Not listed on the toxic substances in schedule 1 of the Canadian Environmental Protection Act, 1999 (CEPA 1999).**DOMESTIC SUBSTANCE LIST (INVENTORY):** Ingredient: Ethylene Glycol (107-21-1): Korea (Yes); DSL(Yes); NDSL(No); Phil.(Yes)**16. OTHER INFORMATION****REASON FOR ISSUE:** Updated MSDS (Customer's Request)**APPROVED BY:** F. James Corbett **TITLE:** Director of Quality & EH&S**PREPARED BY:** F. James Corbett**INFORMATION CONTACT:** 800-422-2436 x 1136**REVISION SUMMARY:** Revision #: 3. This MSDS replaces the June 17, 2008 MSDS. Any changes in information are as follows: In Section 1: Approved by, Title, Reason for Issue, Information Contact, Comments

HMIS RATING

HEALTH:	<input type="checkbox"/>	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: 07/21/2004

MSDS No: ICC-00577

Date-Revised: 12/07/2011

Revision No: 5

INTERCOOL OP-100 50/50

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: INTERCOOL OP-100 50/50**GENERAL USE:** Heat Transfer Fluid**PRODUCT CODE:** 228600**PRODUCT FORMULATION NAME:** INTERCOOL OP-100 50/50**MANUFACTURER**

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

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

E-Mail: 724-981-3771

Product Stewardship: 800-422-2436

Alternate Emergency Phone: 724-981-3771

Transportation: 800-422-2436

Service Number: 800-422-2436

**24 HR. EMERGENCY TELEPHONE
NUMBERS**

(800) ICC-CHEM

COMMENTS: Dispose of in accordance with all applicable local, state, and federal regulations. For assistance with your waste management/environmental service needs including waste disposal and recycling, please contact Interstate Chemical Environmental Services at 800-422-2436 ext. 1703 or email us at environmentalservices@interstatechemical.com

2. HAZARDS IDENTIFICATION

HAZARD DESIGNATION

Environment

GHS CLASSIFICATIONS

Health

Acute Toxicity (Oral), Category 5

GHS LABEL**PRECAUTIONARY STATEMENT(S)****Prevention:**

P301+A1600: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE: Substance may cause skin and eye irritation.

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

POTENTIAL HEALTH EFFECTS

EYES: May cause irritation.

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.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt. %	CAS	EINECS
Ethylene Glycol	~ 50	107-21-1	
Water	~ 50	7732-18-5	231-791-2
Dipotassium Phosphate	< 10	7758-11-4	
Yellow Dye	< 1	6417-85-2	

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: 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: Not Applicable

AUTOIGNITION TEMPERATURE: Not Applicable

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. Keep from freezing.

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 CFR1910.1200)					
		EXPOSURE LIMITS			
		OSHA PEL		ACGIH TLV	
Chemical Name		ppm	mg/m ³	ppm	mg/m ³
Ethylene Glycol	TWA	50 ppm [1]	[1]	50 ppm [2]	[2]
OSHA TABLE COMMENTS: 1. Ceiling 2. Ceiling (vapor)					

PERSONAL PROTECTIVE EQUIPMENT

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

SKIN: For brief contact, no precautions other than clean body-covering clothing should be needed. When prolonged or frequently repeated contact could occur, use chemical protective clothing made from butyl rubber. Selection of specific items such as gloves, boots, apron, full-body suit, etc. will depend on local operation.

RESPIRATORY: For most conditions, no respiratory protection should be needed, however, in dusty atmospheres, use a NIOSH approved dust respirator.

PROTECTIVE CLOTHING: Where splashing is possible, full chemically resistant protective clothing and boots may be required.

WORK HYGIENIC PRACTICES: Establish good personal hygiene and work practices. Always wash hands and face before eating, drinking or smoking. Provide safety shower and eye wash station in work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

Chemical Name	Flash Point (°C)	Solubility in Water	Specific Gravity
Ethylene Glycol	230	Complete	1.113

PHYSICAL STATE: Liquid

ODOR: Odorless

APPEARANCE: Clear, yellow liquid.

COLOR: Fluorescent yellow

pH: 8.0 to 9.5

PERCENT VOLATILE: 50 at (60°F)

VAPOR PRESSURE: < 15 mmHg at (68°F)

VAPOR DENSITY: > 1 (Air=1)

BOILING POINT: (225°F)

FREEZING POINT: (-34°F)

MELTING POINT: (-34°F)

FLASHPOINT AND METHOD: Not Applicable

SOLUBILITY IN WATER: Miscible

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

DENSITY: ~ 8.92 lbs/gal at (60°F)

SPECIFIC GRAVITY: ~ 1.070 (water=1) at (60°F)

VISCOSITY #1: ~ 1 Centipoise at (68°F)

COMMENTS: The information in this section is calculated from specific known information about this product. This information should not be used as exact test results or specifications. The information is provided as typical properties for this product.

10. STABILITY AND REACTIVITY

STABLE: Yes

HAZARDOUS POLYMERIZATION: No

STABILITY: Stable under ordinary conditions of use and storage.

POLYMERIZATION: Product will not undergo polymerization.

CONDITIONS TO AVOID: Heat, flame, other sources of ignition.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon Dioxide and Water Vapor

INCOMPATIBLE MATERIALS: Strong Oxidizers

11. TOXICOLOGICAL INFORMATION

ACUTE

Chemical Name	ORAL LD ₅₀ (rat)	DERMAL LD ₅₀ (rabbit)
Ethylene Glycol	4700 mg/kg	9530 mg/kg

EYES: 500 mg/24H

ORAL LD₅₀: 4700 mg/kg (mice)

REPRODUCTIVE EFFECTS: Has shown teratogenic effects in laboratory animals.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: Do not flush to sewer.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Whatever cannot be saved for recovery or 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, Liquid, N.O.S.

TECHNICAL NAME: Contains: Ethylene Glycol

PRIMARY HAZARD CLASS/DIVISION: 9

UN/NA NUMBER: UN3082

PACKING GROUP: III

NAERG: 171

REPORTABLE QUANTITY (RQ) UNDER CERCLA: 5000 lbs

PLACARDS: Class 9

OTHER SHIPPING INFORMATION: **REGULATED IN BULK ONLY
(GREATER THAN 119 GALLONS)**

CANADA TRANSPORT OF DANGEROUS GOODS

SHIPPING NAME: Not regulated

15. REGULATORY INFORMATION

UNITED STATES

DOT LABEL SYMBOL AND HAZARD CLASSIFICATION



Class 9

Environmentally Hazardous Substance

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES: Immediate (Acute) Health Hazard

FIRE: No **PRESSURE GENERATING:** No **REACTIVITY:** No **ACUTE:** Yes

CHRONIC: No

313 REPORTABLE INGREDIENTS: Ethylene Glycol (107-21-1), 50% max.

EPCRA SECTION 313 SUPPLIER NOTIFICATION

Chemical Name	Wt. %	CAS
Ethylene Glycol	~ 50	107-21-1

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

CERCLA REGULATORY: Ethylene Glycol

Chemical Name	Wt. %	CERCLA RQ
Ethylene Glycol	~ 50	5000 lbs

CERCLA RQ: 5,000 lbs

TSCA (TOXIC SUBSTANCE CONTROL ACT)

Chemical Name	CAS
Ethylene Glycol	107-21-1
Water	7732-18-5

TSCA REGULATORY: The components of this blend are listed on the EPA TSCA Inventory of Chemical Substances.

TSCA STATUS: All ingredients in this mixture are in compliance with TSCA.

CANADA

WHMIS HAZARD SYMBOL AND CLASSIFICATION



Environment
Environmentally Hazardous Substance

WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM): Not listed on the toxic substances in schedule 1 of the Canadian Environmental Protection Act, 1999 (CEPA 1999).

DOMESTIC SUBSTANCE LIST (INVENTORY): Ingredient: Ethylene Glycol (107-21-1): Korea (Yes); DSL(Yes); NDSL(No); Phil.(Yes)

EUROPEAN COMMUNITY

EEC LABEL SYMBOL AND CLASSIFICATION



Environment
Environmentally Hazardous Substance

16. OTHER INFORMATION

REASON FOR ISSUE: Updated MSDS (Customer's Request)

APPROVED BY: F. James Corbett **TITLE:** Director of Quality & EH&S

PREPARED BY: F. James Corbett

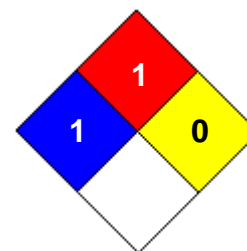
INFORMATION CONTACT: 800-422-2436 x 1136

REVISION SUMMARY: Revision #: 5. This MSDS replaces the August 15, 2011 MSDS. Any changes in information are as follows: In Section 1: Reason for Issue

HMIS RATING

HEALTH:	<input type="checkbox"/>	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.