

Completion Specialties, L.L.C.

P.O. Box 96193
Oklahoma City, OK 73143

Emergency Response: 800-535-5053
Information: 405-670-8777

MATERIAL SAFETY DATA SHEET

1. Chemical Identification

Product: **AI-260**
General Description: Acid Corrosion Inhibitor
Chemical Family: Blend
Revision Date: August 24, 2012
Primary Hazard: Environmentally Hazardous
Substance
Combustible Liquid
RQ Component

Hazard Rating		Rating Scale
Health	2	4 = Extreme
Fire	2	3 = High
Reactivity	1	2 = Moderate
Personal Protection	B	1 = Slight
		0 = Insignificant

2. Hazardous Ingredients

Our hazard evaluation has identified the following chemical ingredient(s) as hazardous. One or more component is being claimed as a trade secret under OSHA's Hazard Communication Rule, 29 CFR 1910.1200. Consult section 14 for the nature of the hazard(s).

Ingredient(s)	CAS Number	Approximate Wt. %
Ethylene Glycol	107-21-1	20-40
N,N-Dimethyl Formamide	68-12-2	10-20
2-Butoxyethanol	111-76-2	1-6
Isopropanol	67-63-0	1-2.5
Cinnamaldehyde	104-55-2	1-6
1-Decanol	112-30-1	1-5
Ethoxylated Nonlylphenol	68412-54-4	1-5
1-Octanol	111-87-5	1-2.5
Triethyl Phosphate	78-40-0	1-2.5

3. Handling Precautions

WARNING! Combustible Liquid and vapor. Maybe ignited by flames, sparks or heat. Harmful if swallowed, inhaled or absorbed through skin. Irritating to eyes, respiratory system and skin. May cause sensitization by skin contact. Suspected human reproductive toxicant. May cause harm to the unborn child. Pregnant women or women of child-bearing age should not be exposed to this product. Components of this product may be absorbed into the body by inhalation, ingestion and through the skin. Possible cancer hazard based on tests with laboratory animals. Prolonged exposure may cause chronic effects. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Keep container closed when not in use. Empty containers may contain residual product. Do not reuse container unless properly reconditioned.

4. First Aid Information

EYES: Remove victim from exposure and into fresh air. Immediately flush with water for at least 15 minutes while holding eyelids open. Remove contact lenses, if present and easy to do. Get immediate medical attention.

SKIN: Remove and isolate contaminated clothing. Immediately wash exposed area with soap and water for at least 15 minutes. Avoid spreading material on unaffected skin. Get immediate medical attention. Launder clothes before reuse.

4. First Aid Information (Continued)

INGESTION: Rinse mouth. Do not induce vomiting without medical advice. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Get immediate medical attention. If possible, do not leave victim unattended.

INHALATION: Remove to fresh air. If breathing is difficult, administer oxygen. Treat symptoms. Keep victim warm and quiet. Seek immediate medical attention.

Note To Physicians

This product contains ethylene glycol. Ethanol decreases the metabolism of ethylene glycol to toxic metabolites. Ethanol should be administered as soon as possible in cases of severe poisoning since the elimination half-life of ethylene glycol is 3 hours. If medical care will be delayed several hours, use three to four 1-ounce oral "shots" of 86-proof or higher whiskey before or during transport to the hospital. Hemodialysis effectively removes ethylene glycol and its metabolites from the body. Effects of acute ethylene glycol poisoning appear in three fairly distinct stages. The initial stage occurs shortly after exposure, lasts 6-12 hours, and is characterized by central nervous system effects (transient exhilaration, nausea, vomiting, and in severe cases coma, convulsions and possible death). The second stage lasts from 12-36 hours after exposure and is initiated by the onset of coma. This phase is characterized by tachypnea, tachycardia, mild hypotension, cyanosis and in severe cases, pulmonary edema, bronchopneumonia, cardiac enlargement and congestive failure. The final stage occurs 24-72 hours post-exposure and is characterized by renal failure ranging from a mild increase in blood urea nitrogen and creatinine followed by recovery to complete anuria with acute tubular necrosis that can lead to death. Oxaluria is found in most cases. The most significant laboratory finding in ethylene glycol intoxication is severe metabolic acidosis.

5. Health Effects Information

Primary Route(s) Of Exposure: Eye, Ingestion, Inhalation, Skin

Target Organs: Eyes. Central nervous system. Kidney. Liver. Lungs. Respiratory system. Skin.

Eye Contact: Extremely irritating to the eyes. Symptoms may include stinging, tearing, redness and swelling.

Skin Contact: Harmful if absorbed through the skin. Irritating to the skin. May cause sensitization by skin contact. Avoid contact with the skin.

Ingestion: Harmful if swallowed. Irritating to mouth, throat, and stomach. May cause delayed lung damage. Components of the product may be absorbed into the body by ingestion. Do not ingest.

Inhalation: Harmful if inhaled. Irritating to respiratory system. Excessive inhalation of this material causes nausea, irritation, dizziness, light-headedness, vomiting, fatigue, headache or unconsciousness depending on the length of exposure and the first aid action given.

Symptoms

Of Exposure: In addition to symptoms listed above, this product contains 2-Butoxy ethanol, which may be absorbed through the skin in toxic amounts if contact is repeated and prolonged, which may cause blood damage. These effects have not been observed in humans.

Aggravation Of Existing Conditions: A review of available data indicates that ethylene glycol may aggravate pre-existing disorders of the kidney and liver.

Chronic Effects: Discomfort in the chest. Shortness of breath, marcosis, decrease in motor functions, behavioral changes, cough, defatting of the skin, rash and irritation. Possible Conjunctiva, Edema, Jaundice. Liver injury may occur. Kidney injury may occur. May cause delayed lung damage. May cause central nervous system disorder.

6. Toxicological Information

Toxicity Studies Of Mixture:

Acute	Species	Test Results
Dermal LD50	Rat	5,857.2676 mg/kg, estimated
Inhalation LC50	Rat	394.4721 mg/L, estimated
Oral LD50	Rat	1,177.7251 mg/kg, estimated

7. Physical & Chemical Properties

Appearance:	Dark Purple Liquid	Pour Point:	-30°F
Odor:	Alcohol	Initial Boiling Point:	180°F
Specific Gravity:	1.055	Flash Point:	170°F TCC
Density:	8.80	Vapor Pressure:	31.2 mm HG @ 100°F
pH (neat):	2.0 – 4.0	Vapor Density:	> 1.0 (Air = 1.0)
Viscosity:	4 cst @ 100°F	Evaporation Rate:	1.7 (Butyl Acetate = 1.0)
Solubility:	Water Soluble		

Note: These physical properties are typical values for this product and not specifications.

8. Fire & Explosion Information

Flash Point:	170°F
Lower Explosive Limit:	2.2%
Upper Explosive Limit:	15.2%

Extinguishing Media: Based on NFPA guide, use water fog, dry chemical, foam, carbon dioxide or other extinguishing agent suitable for Class B fires. Use water to cool containers exposed to fire. Do not use a solid water stream as it may scatter and spread fire.

Unusual Fire And Explosion Hazards: May evolve CO, CO₂ and/or NO_x under fire conditions. In addition, irritating, corrosive and/or toxic gasses may be evolved. Containers exposed in a fire should be cooled with water to prevent vapor pressure buildup leading to rupture.

9. Reactivity Information

Incompatibility: Avoid contact with strong oxidizers (eg. Chlorine, peroxides, chromates, nitric acid, perchlorates, concentrated oxygen, permanganates) which can generate heat, fires, explosions and the release of toxic fumes.

Thermal Decomposition Products: In the event of combustion CO, CO₂, NO_x and/or other irritating, corrosive and/or toxic gasses may be evolved. Do not breathe smoke or fumes. Wear suitable protective equipment.

10. Personal Protection Equipment

Respiratory Protection: When workers are facing concentrations above the exposure limits they must use appropriate NIOSH approved or equivalent respirators. For large spills, entry into large tanks, vessels or enclosed small spaces with inadequate ventilation, a positive pressure, self-contained breathing apparatus is recommended.

Ventilation: General ventilation is recommended. Additionally, local exhaust ventilation is recommended to maintain airborne levels below recommended exposure limits.

10. Personal Protection Equipment

Protective Equipment: Wear impermeable gloves, boots, apron and face shield with chemical splash goggles. A full slicker suit is recommended if gross exposure is possible. This product can be absorbed through the skin in toxic amounts.

The availability of an eye wash fountain and safety shower are recommended. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

11. Spill & Disposal Information

In case of transportation accident, call the emergency response phone number: 800-535-5053

Spill Control And Recovery:

Small Spills: Contain with absorbent material, such as clay, soil or any commercially available absorbent. Shovel reclaimed liquid and absorbent into recovery or salvage drums for disposal. Refer to CERCLA in Section 14.

Large Spills: Dike and prevent further movement and reclaim into recovery or salvage drums or tank truck for disposal. Refer to CERCLA in Section 14.

For large indoor spills, evacuate employees and ventilate area. Eliminate all sources of spark or flame. Those responsible for control and recovery should wear the protective equipment specified in Section 10. Ventilate area and evacuate employees from exposure if the airborne concentration exceeds the TLV. Refer to Section 14.

Disposal: This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.20-24). Under the Resources Conservation and Recovery Act (RCRA) it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Do not allow this material to drain into sewers/water supplies. This product is toxic to fish. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose in accordance with local, state and federal regulations.

12. Environmental Information

	Species	Test Results
Algae, IC50	Algae	47,619 mg/L, 72 Hours
Crustacea EC50	Daphnia	99.8179 mg/L, 48 Hours
Fish LC50	Fish	71.0527 mg/L, 96 Hour

13. Transportation Information

The proper shipping name and/or hazard class for this product may vary according to packaging, properties and mode of transportation. Typical proper shipping names for this product are:

All Containers: Environmentally Hazardous Substance, Liquid, N.O.S.
UN/ID Number: UN-3082
Hazard Class: 9, Environmentally Hazardous Substance
Packing Group: III
Flash Point: 170°F
Hazardous Components: Isopropanol, Dimethyl Formamide, 2-Butoxyethanol, Ethylene Glycol
RQ lbs: 500 Lbs.
RQ Component(s): N,N-Dimethyl Formamide, Ethylene Glycol

14. Regulatory Information

The following regulations apply to this product:

Federal Regulations:

OSHA's Hazard Communication Rule, 29 CFR 1910.1200:

Based on our hazard evaluation, the following ingredients in this product are hazardous and the reasons are shown below.

Ethylene Glycol – Systemic effects
2-Butoxyethanol – Combustible Liquid, Systemic effects
Isopropanol – Flammable Liquid
Dimethyl Formamide – Corrosive Liquid, Systemic effects

Ethylene Glycol = 100 mg/m³ Ceiling as an aerosol
Ethylene Glycol = 50 ppm

ACGIH/TLV
OSHA/PEL

2-Butoxyethanol = TWA 20 ppm, STEL 75 ppm
2-Butoxyethanol = Can be absorbed through skin

ACGIH
ACGIH/TLV, OSHA table Z-1

Isopropanol = TWA 200 ppm, STEL 400 ppm
Isopropanol = TWA 200 ppm, STEL 400 ppm

ACGIH/TLV
OSHA/PEL

N,N-Dimethyl Formamide = 10 ppm,
N,N-Dimethyl Formamide = 10 ppm,
N,N Dimethyl Formamide=Can be absorbed through skin

ACGIH/TLV
OSHA/PEL
ACGIH/TLV, OSHA Table Z-1

CERCLA/Superfund, 40 CFR 117, 302:

This product contains N,N-Dimethyl Formamide and Ethylene Glycol, Reportable Quantity (RQ) substances and if 500 pounds or more of the product are released, it requires notification to the NATIONAL RESPONSE CENTER, WASHINGTON, D.C. at 1-800-424-8802.

SARA/Superfund Amendments And Reauthorization Act Of 1986

(Title III) – Sections 302, 311, 312 and 313:

Section 302 – Extremely Hazardous Substance (40 CFR 355):

This product does not contain ingredients listed in Appendix A and B as an Extremely Hazardous Substance

Section 311 and 312 – Material Safety Data Sheet Requirements (40 CFR 370):

Our hazard evaluation has found this product to be hazardous. The product should be reported under the following EPA hazard categories.

***** Immediate (acute) health hazard
***** Delayed (chronic) health hazard
***** Fire
***** Sudden Release Of Pressure
***** Reactive

***** Indicates Primary Hazards

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of a hazardous chemical. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

Section 313 – List Of Toxic Chemicals (40 CFR 372):

This product contains the following ingredient(s), (with CAS# and % range) which appear(s) on the List Of Toxic Chemicals:

Ethylene Glycol	102-21-1	20-40%
N,N-Dimethylformamide	68-12-2	20%
2-Butoxyethanol	111-76-2	5%

Toxic Substance Control Act (TSCA) (40 CFR 710):

The chemical ingredients in this product are on the 8 (b) inventory list.

14. Regulatory Information (continued from page 5)

Resource Conservation Recovery Act (RCRA), 40 CFR 261 Subpart C & D:

Consult Section 11 for RCRA classification.

Federal Water Pollution Control Act, Clean Water Act, 40 CFR 401.15 (formerly Sec. 307), 40 CFR 116, (formerly Sec. 311):

None of the ingredients of this product are specifically listed.

Clean Air Act, Sec 111 (40 CFR60), Sec 112 (40 CFR 61, 1990 Amendments), Sec 611 (40 CFR 82, Class I and II Ozone Depleting Substances):

Isopropanol – Section 111

State Regulations:

California Proposition 65:

This product contains ~20% ethylene glycol. Ethylene glycol contains the following substances known to the state of California to cause cancer:

1, 4-Dioxane
Ethylene Oxide
Acetaldehyde

Michigan Critical Materials:

This product does not contain any ingredients listed on the Michigan Critical Materials Register.

State Right To Know Laws:

This product is regulated in those states using the TLV for ethylene glycol (1,2-ethanediol), 2-butoxyethanol, isopropanol or N,N-dimethylformamide as a criteria for listing.

15. User's Responsibility

The information accumulated herein is believed to be accurate based on the information provided, although no guarantee or warranty, either expressed or implied is made as to the accuracy or completeness of this information, whether originating with this company or not. Recipients are advised to confirm in advance of need that the information is correct, applicable and suitable to their circumstances. The conditions or methods of handling, storage, use and disposal of the product and container are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage or use of this information or product. If the product is used as a component in another product, this information may not be applicable.

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