



Material Safety Data Sheet

Section 1. Chemical Product and Company Identification

Product/Trade Name: UNIDYME® 60

Chemical Name: Fatty Acids, C₁₈-Unsatd., Trimers

CAS Number: 68937-90-6

Product Uses: Corrosion inhibitor for oilfield applications, flexibilizer in epoxy compounds, and polyamides.

Supplier/Manufacturer: Arizona Chemical Company
P.O. Box 550850
Jacksonville, FL32255-0850
USA
(800) 526-5294
(904) 928-8700

EMERGENCY PHONE: Chemtrec: 1-800-424-9300 (transportation and medical)

Section 2. Hazards Identification

Classification: Product is not classified as hazardous under GHS criteria or OSHA Hazard Communication Standard (29 CFR 1910.1200).

GHS Label Elements:

Signal Word(s): None

Hazard Statement(s): None

Precautionary Statement(s): None

Other information: See Section 11 for health effects. See Section 12 for environmental effects. Product is not considered combustible. However, after prolonged contact with highly porous materials, this product may spontaneously combust.

Section 3. Composition and Information on Ingredients

Name	CASRN/Trade Secret Number	Weight %
Fatty Acids, C ₁₈ -Unsatd., Trimers	68937-90-6	100

See section 8 for Exposure Controls/ Exposure Limits/Personal Protection information.

Section 4. First Aid Measures

- Eye Contact:** Immediately flush eyes with flooding amounts of cool, low-pressure water for at least 15 minutes. If irritation persists, get medical attention. If hot product contacts eye, flush with water for at least 15 minutes and seek medical attention immediately.
- Skin Contact:** In case of skin contact, wash immediately with soap and water. If irritation develops or persists, get medical attention. If hot product contacts skin, cool under running water and seek medical attention. Launder contaminated clothing before reuse.
- Inhalation:** Move person to non-contaminated air. If affected person is not breathing, apply artificial respiration. Seek medical attention.
- Ingestion:** If swallowed, contact a physician or poison control center immediately. DO NOT induce vomiting unless directed to do so by medical personnel.
- Notes to Physician:** Provide general supportive measures and treat symptomatically. In case of ingestion, the decision of whether or not to induce vomiting should be made by the attending physician. If burn is present, treat as any thermal burn.

****If victims of chemical over-exposure are taken for medical attention, give a copy of the label or MSDS to the physician/health professional.****

Section 5. Fire-Fighting Measures

- Extinguishing Media:** Carbon dioxide, dry chemical, or water. Avoid using a direct stream of water.
- General Fire Hazards:** Product is not considered combustible. If heated above its flash point in the presence of air, product can support combustion. If mist is generated, minimum flash point may be reduced. After prolonged contact with porous materials, product may spontaneously combust.
- NFPA Hazard Ratings:** 1 Health 1 Fire 0 Reactivity
- Hazardous Decomposition Products:** Smoke, carbon monoxide, carbon dioxide, and other products of combustion.
- Fire Fighting Equipment:** Wear full protective clothing, including self-contained positive pressure or pressure demand breathing apparatus, helmet, and protective clothing. Use water spray to cool fire-exposed containers and to protect personnel.

Section 6. Accidental Release Measures

- Containment:** Contain the discharged material. Do not allow product to enter sewer or waterways. Check with local and state environmental agencies for guidance.
- Clean-up Procedures:** Spills may present a slipping (physical) hazard. Wear appropriate protective equipment and clothing during clean up. Absorb spill with inert material. Shovel material into appropriate container for disposal. Thoroughly wash spill area with water after clean up. Surfaces may become slippery after spillage. Follow all Local, State, Federal and Provincial regulations for disposal.
- Evacuation Procedures:** Isolate area. Keep unnecessary personnel away. In case of large spills, follow all facility emergency response procedures.
- Special Instructions:** Remove soiled clothing and launder before reuse (See Section 7 Storage). Avoid contact with skin and eyes. Avoid inhalation of fumes from hot product.

Section 7. Handling and Storage

- Handling:** Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Avoid inhalation of mists/vapors/fumes from hot product. Keep this product from heat, sparks, or open flame. Do not use air pressure or apply heat with open flame to remove contents of drum. After emptied, drum may retain solid, liquid and/or vapor residues. Continue to observe all precautions on label as if drum were full. Do not cut, puncture, torch or weld on or near the emptied drum. Do not use for other purposes. Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet or applying cosmetics.
- Storage:** Store at ambient temperature and atmospheric pressure. Porous material such as clothing, rags, paper, insulation, or organic clay may spontaneously combust when wetted with this material.

Section 8. Exposure Controls/Personal Protection

Observe exposure limits for Oil Mist (NOC):

ACGIH TWA: 5 mg/m³ Respirable; STEL 10 mg/m³ Respirable;
OSHA TWA: 5 mg/m³ Respirable.

- Engineering Controls:** Provide local exhaust and general ventilation systems to maintain airborne concentrations below OSHA, ACGIH, and manufacturer recommended exposure limits. Local exhaust ventilation is preferred because it prevents contaminant dispersion into work areas by controlling it at its source. Local exhaust ventilation is recommended when generating excessive levels of vapors from handling or thermal processing. Use local and general exhaust ventilation to effectively remove and prevent buildup of mist/vapors/fumes generated from handling this product.

Personal Protection

- Eye/Face:** Wear chemical goggles and face shield if splashing is possible. Ensure compliance with OSHA's personal protective equipment (PPE) standard for eye and face protection, 29 CFR 1910.133.
- Skin:** Use impervious gloves. Work clothing sufficient to prevent all skin contact should be worn, such as coveralls and long sleeves. For heated product, use any type thermal insulating gloves and other clothing as necessary to protect from thermal burns. Ensure compliance with OSHA's personal protective equipment (PPE) standard, 29 CFR 1910.132 (general) and 138 (hand protection).
- Respiratory:** GAS/VAPOR: Respirators should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2-1992). A written respiratory protection program, including provisions for medical certification, training, fit-testing, exposure assessments, maintenance, inspection, cleaning, and convenient, sanitary storage, must be implemented. For concentrations above the TLV and/or PEL but less than 10 times these limits, a NIOSH approved half-face piece respirator equipped with appropriate chemical cartridges may be used. For concentrations greater than 10 times the TLV and/or PEL, consult the NIOSH respirator decision logic found in Publication No. 87-116 or ANSI Z88.2-1992. Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.
- General:** Use good industrial hygiene practices in handling this material. Eye wash fountains and emergency showers are recommended. Launder contaminated clothing before reuse.

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Section 9. Physical and Chemical Properties

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Appearance:	Dark viscous liquid
Odor:	Fatty acid
Odor Threshold:	Not applicable
pH:	Not applicable
Melting point/freezing point:	16°C (60°F) Pour Point
Initial boiling point and boiling range:	Not applicable
Flash Point:	316°C (600°F) (Cleveland Open Cup)
Evaporation rate:	Approx. 0 (n-BuAc=1)
Flammability:	Non-flammable
Upper/lower flammability or explosive limits:	Not available
Vapor pressure:	<0.001 mm Hg at 20°C (68°F)
Vapor density:	Not applicable
Volatiles:	0% by weight
Specific gravity:	0.96 at 25°C/25°C (water=1.00)
Solubility (water):	<0.37 mg/L at 20°C (Fatty acids, C ₁₈ -unsatd., trimers)
Partition coefficient, n-octanol/water:	LogK _{ow} 2.2-8.9 at 30°C (Fatty acids, C ₁₈ -unsatd., trimers)
Auto-ignition temperature:	Not available
Decomposition temperature:	Not available
Viscosity:	40,000 centistokes at 25°C
Molecular weight:	Not available
Acid Number:	192 typical

Section 10. Stability and Reactivity Data

Chemical Stability:	This product is stable.
Hazardous Polymerization:	Hazardous polymerization will not occur.
Conditions to Avoid:	Avoid strong oxidizing agents. Avoid prolonged contact with porous materials.
Incompatibility:	This product may react with strong oxidizing agents.
Hazardous Decomposition Products:	Upon decomposition, product emits carbon monoxide, carbon dioxide, and other low molecular weight hydrocarbons.

Section 11. Toxicological Information

Routes of Exposure and Potential Health Effects:

Eye:	Direct contact with product may cause mild eye irritation. If heated product contacts the eye, thermal burns may result.
Skin:	Direct contact with product may cause mild skin irritation. If heated, product can cause thermal burns.
Inhalation:	Exposure to oil mists/vapors/fumes may cause respiratory tract irritation. Inhalation of mists/vapors/fumes generated by heating this product may cause respiratory tract irritation with throat discomfort, coughing and difficulty breathing.
Ingestion:	Ingestion of large quantities may result in gastrointestinal disturbances including irritation, nausea, and diarrhea.

Toxicity Data (for Fatty acids, C₁₈-unsatd., dimers):

Acute Toxicity:	Oral, rat, LD ₅₀ > 2,000 mg/kg Oral, rat, LD ₅₀ > 5,000 mg/kg
Skin Corrosion/Irritation:	Skin-rabbit, Mild irritant
Eye Irritation:	Eye-rabbit, Mild irritant
Sensitization:	No data available
Germ Cell Mutagenicity:	Non mutagenic in the AMES Salmonella Assay and in two <i>in vitro</i> mammalian gene tests (one with mouse lymphocyte and one with human lymphocyte)
Carcinogenicity:	This product is not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP or OSHA.

Reproductive Toxicity: Parental NOEL = 180 mg/kg/day and the reproductive/developmental NOEL = 1858 mg/kg/day in rats

Repeat Dose Toxicity: NOAEL = 100 mg/kg/day in rats in 90-day feeding study

Specific Target Organ System Toxicity

– **Single Exposure:** No data available

Specific Target Organ System Toxicity

– **Repeated Exposure:** No data available

Other: No data available

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Section 12. Ecological Information
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Ecotoxicity (for Fatty acids, C₁₈-unsatd., dimers):

Acute Toxicity, Fish: 96-hr LL₅₀ > 1000 mg/l loading rate WAF; NOEL 1000 mg/l loading rate WAF
 Acute Toxicity, Daphnia: 48-hr LL₅₀ > 1000 mg/l loading rate WAF; NOEL 1000 mg/l loading rate WAF
 Growth Inhibition, Algae: 72-hr AUC EL₅₀ > 1000 mg/l loading rate WAF, NOEL 1000 mg/l loading rate WAF

Biodegradability: Ready Biodegradation, Modified Sturm Test (OECD 301B) - degraded 11.1% after 28 days, not readily biodegradable (for Fatty acids, C₁₈-unsatd., trimers)

Bioaccumulative Potential:

Partition Coefficient (LogK_{ow}) 2.2-8.9 @ pH 2 (for Fatty acids, C₁₈-unsatd., trimers)

Other: When spilled, this product may act as an oil, causing a film, sheen, emulsion, or sludge at or beneath the surface of a body of water. Oils of any kind can cause: (a) drowning of waterfowl due to lack of buoyancy, loss of insulating capacity of feathers, starvation and vulnerability to predators due to lack of mobility; (b) lethal effects on fish by coating gill surfaces, preventing respiration; (c) potential fish kills resulting from alteration in biochemical oxygen demand; (d) asphyxiation of benthic life forms when floating masses become engaged with surface debris and settle on the bottom; and (e) adverse aesthetic effects of fouled shoreline and beaches.

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Section 13. Disposal Considerations
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Waste Disposal

Waste material must be tested using methods described in 40 CFR 261 to determine if it meets applicable definitions of hazardous waste. No EPA Waste Numbers are applicable for this product's components. Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations. Write to the address listed in Section 1 for information on heavy metals analysis and other disposal information.

Section 14. Transport Information

DOT Classification: Not a DOT controlled material.
DOT Proper Shipping Name: None
DOT Identification Number: None
Packing Group: None
Hazardous Substances Reportable Quantity: None
Special Provisions for Transport: IF SHIPPED OVER 100°C (but less than flash point): DOT Shipping Name: Elevated Temperature Liquid, n.o.s.; Hazard Class: 9; UN/NA Number: UN3257; Packing Group III; bulk shipping requires "HOT" placard
Additional Shipping Information: Not a Marine Pollutant
International Transportation Regulations: Not classified

Section 15. Regulatory Information

TSCA: This product is on the Toxic Substances Control Act (TSCA) Inventory.
SARA TITLE III:
SARA 302 (40 CFR 355): None of this product's components are listed.
SARA 311/312 (40 CFR 370.2): None.
SARA 313 (40 CFR 372.65): None of this product's components are listed.
CERCLA (40 CFR 302.4): None of this product's components are listed.
International Inventories: This product is either listed or exempt from listing on the following inventories: Canada DSL, Europe NLP, Japan ENCS, Korea ECL, Australia AICS, China IECS and Philippines PICCS.
State Lists: None of this product's components are listed in FL, MA, MN, NJ or PA.

Section 16. Other Information

Validation Date: March 13, 2008
Supersedes Date: February 25, 2008
Reason for Revision: New format. Revised Sections 1-15.
Validated By: C. P. Smith, Sr. Product Regulatory Specialist

Key/Legend:

ACGIH = American Conference of Governmental Industrial Hygienists. ANSI = American National Standards Institute. ASTM = American Society for Testing and Materials. AUC = Area Under Curve. CERCLA = Comprehensive Environmental Response, Compensation and Liability Act. DOT = Department of Transportation. EL = Effective Loading. EPA = Environmental Protection Agency. GHS = Globally Harmonized System of Classification and Labeling of Chemicals. IARC = International Agency for Research on Cancer. LD = Lethal Dose. LL = Lethal Loading. NIOSH = National Institute of Occupational Health and Safety. NOEL = No Observed Effect level. NTP = National Toxicology Program. OSHA = Occupational Safety and Health Administration. PEL = Permissible Exposure Limit. SARA = Superfund Amendments and Reauthorization Act. TLV = Threshold Limit Value. TSCA = Toxic Substance Control Act. WAF = Water Accommodated Fractions.

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