

CHEMICAL FATE INFORMATION: Biodegradability does not apply to inorganic substances.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Dispose as a hazardous waste in accordance with local, state and federal regulatory agencies.

14. TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION (DOT)

PROPER SHIPPING NAME:	Ammonium Persulfate
PRIMARY HAZARD CLASS / DIVISION:	5.1 (Oxidizer)
UN/NA NUMBER:	UN 1444
PACKING GROUP:	III
LABEL(S):	5.1 (Oxidizer)
PLACARD(S):	5.1 (Oxidizer)
MARKING(S):	Ammonium Persulfate, UN 1444
REPORTABLE QUANTITY (RQ):	Not applicable
ADDITIONAL INFORMATION:	49 STCC Number: 4918733

This material is shipped in 225 lb. fiber drums, 55 lb. poly bags and 1000-2000 lb. IBC's (supersacks).

INTERNATIONAL MARITIME DANGEROUS GOODS (IMDG)

PROPER SHIPPING NAME:	Ammonium Persulfate
-----------------------	---------------------

INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO) / INTERNATIONAL AIR
TRANSPORT ASSOCIATION (IATA)

PROPER SHIPPING NAME:	Ammonium Persulfate
-----------------------	---------------------

OTHER INFORMATION:

Protect from physical damage. Do not store near acids, moisture or heat.

Ship in refrigerated trucks when outside temperature exceeds 113 deg F.

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355, APPENDIX A):
Not listed

SECTION 311 HAZARD CATEGORIES (40 CFR 370):
Fire Hazard, Immediate (Acute) Health Hazard

SECTION 312 THRESHOLD PLANNING QUANTITY (40 CFR 370):

11. TOXICOLOGICAL INFORMATION

Acute Effects
Eye : Causes moderate to severe irritation. If not removed promptly, permanent injury may result.
Skin : May cause mild to moderate irritation with brief contact. Prolonged contact may cause severe irritation, dermatitis and burns.
Inhalation : May cause nose, throat and general upper respiratory tract irritation, coughing and headache.
Ingestion : Product is harmful if swallowed. May cause vomiting, headache, nausea, diarrhea, abdominal cramps, drowsiness and dizziness.
Chronic Effects : No other known chronic effects.
Carcinogenicity : None of the ingredients are listed in NTP, IARC monographs or OSHA regulated.

12. ECOLOGICAL INFORMATION

Environmental Fate : Product is expected to be readily biodegradable.

13. DISPOSAL CONSIDERATIONS

Waste disposal : Recycle if possible. Otherwise dispose to licensed disposal contractor.
Product disposal : Recycle if possible. Otherwise comply with all local, state and federal regulations.
Container disposal : Drain container thoroughly. Triple rinse with water. Send to reclaimer or dispose of properly. Comply with all local, state and federal regulations.

14. TRANSPORT INFORMATION

GA-71

LAND (D.O.T.)

Shipping Name : UN1760, Corrosive liquids, n.o.s., (contains Alkyl Acid Phosphates), 8, PG III
Label(s) required : Corrosive
Emergency Phone : (405) 282-8510

AIR (IATA)

Shipping Name : UN1760, Corrosive liquids, n.o.s., (contains Alkyl Acid Phosphates), 8, PG III
Label(s) required : Corrosive

SEA (IMDG)

Shipping Name : UN1760, Corrosive liquids, n.o.s., (contains Alkyl Acid Phosphates), 8, PG III
Label(s) required : Corrosive

15. REGULATORY INFORMATION

This document has been prepared in accordance with the MSDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

OSHA Classification : Corrosive

TSCA (USA) : All components listed.
DSL (Canada) : All components listed.

SARA Title III Section 302 : Extremely Hazardous Substances (40CFR355): This product does not contain ingredients listed in Appendix A and B.

Sections 311/312
Immediate (acute) health hazard : YES
Delayed (chronic) health hazard : YES
Fire hazard : YES
Sudden Release of Pressure Hazard : NO
Reactive Hazard : NO

Section 313 Reportable Quantities : YES

12. ECOLOGICAL INFORMATION

Environmental Fate : Biodegradability does not apply to inorganic substances.

13. DISPOSAL CONSIDERATIONS

Waste disposal : Recycle if possible. Otherwise dispose to licensed disposal contractor.
Product disposal : Recycle if possible. Otherwise comply with all local, state and federal regulations.
Container disposal : Drain container thoroughly. Triple rinse with water. Send to reclaimer or dispose of properly. Comply with all local, state and federal regulations.

14. TRANSPORT INFORMATION

GA-72

LAND D.O.T.)

Shipping Name : UN3264, Corrosive liquid, acidic, inorganic, n.o.s., (contains Ferric Sulfate), 8, PG III
Label(s) required : Corrosive
Emergency Phone : (405) 282-8510

AIR (IATA)

Shipping Name : UN3264, Corrosive liquid, acidic, inorganic, n.o.s., (contains Ferric Sulfate), 8, PG III
Label(s) required : Corrosive

SEA (IMDG)

Shipping Name : UN3264, Corrosive liquid, acidic, inorganic, n.o.s., (contains Ferric Sulfate), 8, PG III
Label(s) required : Corrosive

15. REGULATORY INFORMATION

This document has been prepared in accordance with the MSDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

OSHA Classification : Corrosive

TSCA (USA) : All components listed.
DSL (Canada) : All components listed.

SARA Title III Section 302 : Extremely Hazardous Substances (40CFR355): This product does not contain ingredients listed in Appendix A and B.

Sections 311/312
Immediate (acute) health hazard : YES
Delayed (chronic) health hazard : NO
Fire hazard : NO
Sudden Release of Pressure Hazard : NO
Reactive Hazard : NO

Section 313 Reportable Quantities : None

CERCLA : If the reportable quantity of this product is accidentally spilled, the incident is subject to the provisions of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and must be reported to the National Response Center by calling (800) 424-8802.

Reportable Quantity : Not determined for the product.

Chapter 1 - Agencies, Laws and Regulations Hazardous Materials Regulatory Overview of: OSH Act, OSHA, EPA, DOT, NIOSH, CERCLA, SARA, RCRA, TSCA
Chapter 2 - Understanding the Hazard Communication Standard (29 CFR 1910.1200) Background Information "Employee Right to Know" Rule How the Standard Works Written Hazard Communication Program Material Safety Data Sheet (MSDS) Employee Information and Training
Chapter 3 - HAZWOPER Training OSHA Regulation for Training Training Sessions Written Programs HAZWOPER Training Requirements Site Supervisors Refresher Training Treatment, Storage and Disposal (TSD) Facility Training Emergency Response Personnel Training First Responder Awareness Level (FRA) First Responder Operational Level (FRO) Hazardous Material Technician Level Hazardous Materials Specialist Level Hazardous Materials Scene Manager
Chapter 4 - Principles of Safety Causes of Accidents Kinetic/Mechanical Injuries Fall Protection Stairways or Ladders Machine Guarding Ignition Sources and Static Electricity Lockout/Tagout Controlling Energy Sources Biological Hazards Head Protection Eye and Face Protection Foot Protection Hearing Protection Heat Related Illnesses
Chapter 5 - Toxicology Limits of Exposure Routes of Exposure Measure of Exposure Dose-Response Toxic Products Toxin Chart
Chapter 6 - Planning and Organization Planning a Safe Worksite Organizational Structure Management's Safety Commitment Written Workplan Health and Safety Plan Emergency Response Plan Safety Meetings and Inspections Training Programs
Chapter 7 - Preparation for Fieldwork Permits Utilities Initial Site Visit Site Characterization Locating Services Traffic and Parking Restrictions Site Security Mud, Soil, Drums and Site Cleanup Steam Cleaning Site Facilities Subcontractors Drilling Health and Safety Plans
Chapter 8 - Chemical Hazard Identification Systems Hazard Descriptions Exposure

EXPLOSIVES

Gases and Vapors
Liquified Gas
Health Hazards of Gas
Flammable Liquids
Fire Hazards
Flammable Solids
Oxidizers
Toxins and Poisons
Carcinogens
Corrosives
HAZCOM
National Fire Protection Association (NFPA 704 code)
Department of Transportation Classification
Hazardous Materials Identification System (HMIS)
Shipping Papers and Manifests

Chapter 9 - Understanding Radiation Safety

Atoms
Radiation
Ionization
Ionizing Radiation
Alpha and Beta Particles
Gamma Rays, X Rays, and Neutrons
Natural Background Radiation
Man-Made Sources of Radiation
Radioactive Waste
Radioactive Decay
Interaction with Matter
Measurement of Radiation
Radiation Detection Instruments
Radiation Exposure
Health Effects of Radiation Exposure
Chronic and Acute Exposure
Risks of Exposure
Protection and Shielding

Chapter 10 - Respiratory Protection

Classification of Materials Present in Air
Health Effects of Oxygen-Deficiency
Important Terms
Controls
Written Program
Ignition Sources and Static Electricity
Lockout/Tagout
Medical Evaluation
Respirator Training
Employer Responsibility
Selection of Respirator Protection
Choice Considerations
Types of Respirator Protection
Advantages and Disadvantages
Air Purifying Respirator (APR)
Particulate Respirators
Canister or Cartridge
Cartridge Maximum Use
Powered Air Purifying Respirators (PAPR)
Atmosphere Supplying Respirators
Hose Mask Respirators
Air Line Respirators
Self-Contained Breathing Apparatus (SCBA)
Breathing Air Quality
Respirators for IDLH atmospheres
Protection Factors
Proper Use
Fit Testing
Testing Methods
When a Respirator is Needed
Extreme Temperatures
Inspection, Storage, Maintenance, and Repair
Air Cylinders

Chapter 11 - Personal Protective Equipment

PPE Decision Making
Types of Protection
Levels of Protection
Descriptions of Levels A, B, C, D
Materials and Quality of Construction
Fire and Heat Protection
Understanding PPE Limitations
Health Considerations

Permit Considerations

Inspection and Maintenance

Chapter 12 - Air and Environmental Monitoring

Initial Site Survey
Principles of Gas
Preliminary Onsite Evaluation
Procedures for Atmospheric Monitoring
Organic Vapors and Gases
Radiation
Oxygen Deficiency, Oxygen Enrichment, Combustible Gases, and Visual Observations
Initial Entry and Surveys
Priority for Initial Entry Monitoring
Periodic Monitoring
Ambient Atmospheric Concentrations
Vapor Density
Direct Reading Instruments
Air Monitoring Instrument Data
Air Monitoring Equipment
Equipment Certification
Reliable and Useful Results
Calibration and Relative Response
Types of Direct Reading Instruments
Combustible Gas Indicator (CGI)
Toxic Atmosphere Monitors
Colorimetric Indicator Tubes
Photoionization Detector Tubes (PID)
Flame Ionization Detectors (FID)
Organic vapor Analyzer (OVA)
Aerosol Monitors

Chapter 13 - Sampling and Packaging

Sampling Objectives
Classification of Samples
Quality Assurance/Quality Control (QA/QC)
Location of Sampling Sites
Sampling Methods and Data
Liquid Samplers
Solid Samplers
Cleaning and Storage Procedures

Chapter 14 - Fire Protection

Requirements
Fire and Extinguisher Identification
Extinguisher Types and Maintenance
Location of Extinguishers
Additional Fire Fighting Equipment
Fire Fighting Foams

Chapter 15 - Handling Drums and Containers

Drum Inspection
Drum Identification
Drum Handling
Drum Contents
Lab Pacs
Opening Drums
Drum Sampling
Content Characterization
Drum Staging
Bulking
Shipment
Special Case Problems

Chapter 16 - Confined Space Hazards

29 CFR 1910.146
OSHA Protection
Written Entry Procedures
Personnel Affected by the Permit-Required Confined Space Standard
Hazardous Atmospheres
Toxic Vapors and Gases
Flammable Atmospheres
Atmospheric Testing
Ventilation
Other Hazards
Requirements for Entering Permit-Required Confined Spaces
Non-Permit Confined Spaces
Entrance into Permit-Required Confined Spaces
Safeguarding Confined spaces
Isolation, LO/TO

Evacuation from a Confined Space
Site Security

Chapter 17 - Site Emergencies

Incident Management and Scene Control
Site Safety Plan
Incident Command System
Incident Commander
Job Functions
Onsite Personnel
Site Leaders
Offsite Personnel
Federal Response Organizations
Emergency Training
Emergency Identification and Prevention
Onsite Communication
Site Mapping
Safe Distances
Refuges (Safety Stations)
Public Evacuation
Site Security and Control
Personal Locator Systems
Evacuation Routes
Decontamination
Emergency Equipment
Medical Treatment and First Aid
Emergency Response Procedures
Rescue/Response Action
Evaluations
Follow-up
Documentation

Chapter 18 - Decontamination Procedures

29 CFR 1926.65
Basic Decontamination
Site Selection and Management
Planning for Decontamination
Setting Up the Decontamination Area
Decontamination Methods
Decontamination Procedures
Decontamination Process
Analysis of Decontamination
Decontamination Process Charts for Levels A, B, and C

Chapter 19 - Medical Surveillance

OSHA Medical Requirements
Developing a Medical Program
Recommended Medical Examination Chart
Medical Program Effectiveness
Medical Program Development
Occupational and Medical History
Ability to Work While Wearing PPE
Tests Performed by Occupational Physicians
Periodic Medical Examinations
Emergency Treatment
Non-emergency Treatment