

SAFETY DATA SHEET

Preparation Date: 05/27/2015

Revision Date: 10/31/2018

Revision Number: G2

1. IDENTIFICATION

Product identifier

Product code: A1651
Product Name: AMMONIUM PEROXYDISULFATE, CRYSTAL, ELECTROPHORESIS GRADE

Other means of identification

Synonyms: Ammonium peroxydisulfate
 Ammonium persulfate
 Ammonium perfulphate
 Bis(Ammonium) Peroxodisulfate
 Diammonium peroxydisulfate
 Diammonium peroxydisulphate
 Diammonium persulfate
 Peroxydisulfuric acid
 Peroxydisulfuric acid, diammonium salt
 Persulfate d'ammonium [French]

CAS #: 7727-54-0
RTECS # SE0350000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: Used to desize cotton; additive in hydrogen peroxide bleaching; In printed circuit boards; copper foil etching; initiators for olefin polymerization in aqueous systems; used in emulsions polymerization; oxidizer; bleaching agents; photography; manufacture of other persulfates; deodorizing and bleaching oils; aniline dyes; preserving foods; depolarizers in batteries; washing infected yeast; to remove hypo; removing pyrogallol stains; making soluble starch; analytical chemistry.

Uses advised against No information available

Supplier: Spectrum Chemical Mfg. Corp
 14422 South San Pedro St.
 Gardena, CA 90248
 (310) 516-8000

Order Online At: <https://www.spectrumchemical.com>

Emergency telephone number Chemtrec 1-800-424-9300

Contact Person: Martin LaBenz (West Coast)

Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)


Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2B
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Specific target organ toxicity (single exposure)	Category 3
Oxidizing solids	Category 3

Label elements

Danger

Hazard statements
 Harmful if swallowed
 Causes skin irritation
 Causes eye irritation
 May cause respiratory irritation
 May cause an allergic skin reaction
 May cause allergy or asthma symptoms or breathing difficulties if inhaled
 May intensify fire; oxidizer



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

May be harmful if inhaled

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Avoid breathing dust/fume/gas/mist/vapors/spray
 In case of inadequate ventilation wear respiratory protection
 Contaminated work clothing must not be allowed out of the workplace
 Use only outdoors or in a well-ventilated area
 Keep away from heat/sparks/open flames/hot surfaces. — No smoking
 Keep/Store away from clothing and other combustible materials
 Take any precaution to avoid mixing with combustibles
 Wear respiratory protection
 Wear protective gloves
 Wear eye/face protection

Precautionary Statements - Response

IN CASE OF FIRE: Use water to extinguish. Do not use dry chemicals or foams. CO2 or Halon may provide limited control.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
 IF ON SKIN: Wash with plenty of water
 Take off contaminated clothing and wash it before reuse
 If skin irritation or rash occurs: Get medical advice/attention
 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. IF INHALED: Remove person to fresh air and

keep comfortable for breathing.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed
Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
Ammonium Persulfate	7727-54-0	100

4. FIRST AID MEASURES

First aid measures

- General Advice:** National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.
- Skin Contact:** Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention. If symptoms persist, call a physician.
- Eye Contact:** Flush eyes with water for 15 minutes. Get medical attention.
- Inhalation:** Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
- Ingestion:** Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

Most important symptoms and effects, both acute and delayed

- Symptoms**
- Causes eye irritation
 - Causes skin irritation
 - May cause irritation of respiratory tract
 - May cause an allergic skin reaction
 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

Indication of any immediate medical attention and special treatment needed

- Notes to Physician:** Treat symptomatically.

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

- Suitable Extinguishing Media:** Water. CO2 may be of no value in extinguishing fires involving oxidizers and may only provide limited control.
- Unsuitable Extinguishing Media:** Dry chemical. Halons. Foam.

Product code: A1651

Product name: AMMONIUM
PEROXYDISULFATE, CRYSTAL,
ELECTROPHORESIS GRADE

3 / 13

Specific hazards arising from the chemical

Hazardous Combustion Products:

Sulfur Oxides. Nitrogen Oxides.

Specific hazards:

Oxidizer. Keep away from combustible materials (wood, paper, oil, clothing, etc.). The product is not flammable, but it may cause fire when in contact with other material. Contact with combustible or organic materials may cause fire. Will accelerate burning when involved in a fire. Container explosion may occur under fire conditions or when heated. When heated to decomposition it emits toxic fumes.

Special Protective Actions for Firefighters

Specific Methods:

For large fires, flood fire area with water from a distance. Cool affected containers with flooding quantities of water. Do not get water inside containers. DO NOT use combustible materials such as sawdust.

Special Protective Equipment for Firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions:

Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid dust formation. Remove all sources of ignition. Keep combustibles (wood, paper, oil, clothing, etc.) away from spilled material.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment

Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

Methods for cleaning up

Sweep up and shovel into suitable containers for disposal. Do not use combustible materials such as paper towels, sawdust, clothing, etc. to clean up spill. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials. All equipment used when handling the product must be grounded.

Safe Handling Advice

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not ingest. Do not breathe dust. Keep away from combustible material. Keep away from heat and sources of ignition. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Moisture sensitive. Keep container tightly closed in a dry and well-ventilated place. Do not store near combustible materials. Store in a segregated and approved area.

Incompatible Materials:

Reducing agents
Combustible materials
Organic materials
Metals
Aluminum
Iron
Sodium Peroxide

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WEEL
Ammonium Persulfate	7727-54-0	None	None	None	None

Canada

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Ammonium Persulfate	7727-54-0	0.1 mg/m ³ TWA	None	None	None

Australia and Mexico

Components	CAS-No.	Australia	Mexico
Ammonium Persulfate	7727-54-0	None	None

Appropriate engineering controls

Engineering measures to reduce exposure:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection: Goggles

Skin and body protection: Chemical resistant apron
Long sleeved clothing
Gloves

Respiratory protection: Wear respirator with dust filter.

Hygiene measures: Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Solid	Appearance: No information available.	Color: White to yellowish.
Odor: Unpleasant.	Taste No information available.	Formula: (NH4)2S2O8
Molecular/Formula weight (g/mole): 228.19	Flammability: No information available	Flash point (°C): > 93.3°C
Flashpoint (°C/°F): > 93.3°C/ 200°F	Flash Point Tested according to: Closed cup	Autoignition Temperature (°C/°F): No information available
Lower Explosion Limit (%): No information available	Upper Explosion Limit (%): No information available	Melting point/range(°C/°F): 120°C/ 248°F
Decomposition temperature(°C/°F): No information available	Boiling point/range(°C/°F): No information available	Bulk density: No information available
Density (g/cm3): No information available	Specific gravity: 1.98	pH: 1.0-2.0 at 228 g/L @ 25°C
Vapor pressure @ 20°C (kPa): No information available	Evaporation rate: No information available	Vapor density: 7.88
VOC content (g/L): No information available	Odor threshold (ppm): No information available	Partition coefficient (n-octanol/water): No information available
Viscosity: No information available	Miscibility: No information available	Solubility: Freely soluble in water

10. STABILITY AND REACTIVITY

Reactivity
Oxidizer. Reacts with reducing agents, organic material, combustible materials, and powdered metals

Chemical stability

Stability: Moisture Sensitive. Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Ignition sources. Incompatible materials. Contact with combustible materials (wood, paper, oil, clothing, etc.). Exposure to moisture. Exposure to moist air.

Incompatible Materials: Reducing agents
Combustible materials
Organic materials
Metals
Aluminum
Iron

Sodium Peroxide

Hazardous decomposition products:

Nitrogen oxides (NOx). Sulfur oxides. Ammonia.

Other Information

Corrosivity:

No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:

Inhalation. Ingestion.

Acute Toxicity

Component Information

Ammonium Persulfate	
CAS-No.	7727-54-0

LD50/oral/rat = 495 mg/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rabbit = >10000 mg/kg Dermal LD50 Rabbit
LD50/dermal/rat = 2000 mg/kg
LC50/inhalation/rat = 520 mg/L Inhalation LC50 Rat 1 h
LC50/inhalation/mouse = No information available
Other LD50 or LC50 information = No information available

Product Information

LD50/oral/rat =
VALUE- Acute Tox Oral = 495 mg/kg

LD50/oral/mouse =
Value - Acute Tox Oral = No information available

LD50/dermal/rabbit
VALUE-Acute Tox Dermal = > 10000 mg/kg

LD50/dermal/rat
VALUE -Acute Tox Dermal = 2000 mg/kg

LC50/inhalation/rat
VALUE-Vapor = No information available
VALUE-Gas = No information available
VALUE-Dust/Mist = 520 mg/l

LC50/Inhalation/mouse
VALUE-Vapor = No information available
VALUE - Gas = No information available
VALUE - Dust/Mist = No information available

Product code: A1651

Product name: AMMONIUM
PEROXYDISULFATE, CRYSTAL,
ELECTROPHORESIS GRADE

Symptoms

Skin Contact:	Causes skin irritation. Moderate skin irritation. May cause sensitization by skin contact.
Eye Contact:	Causes eye irritation. Mild eye irritation.
Inhalation	Causes respiratory tract (nose, throat, lung) irritation with coughing and shortness of breath. May cause chemical pneumonitis. May cause pulmonary edema, inflammation, edema of bronchi and larynx.
Ingestion	May be harmful if swallowed. Causes gastrointestinal (digestive) tract irritation with nausea, vomiting, and diarrhea.
Aspiration hazard	No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity	Prolonged or repeated inhalation may cause allergic reaction. Skin: Sensitizer. May cause allergic skin reaction (allergic contact dermatitis).
Sensitization:	May cause sensitization by inhalation and skin contact.
Mutagenic Effects:	No information available
Carcinogenic effects:	Not considered carcinogenic.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Ammonium Persulfate	7727-54-0	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity No data is available

Reproductive Effects: No information available
Developmental Effects: No information available
Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure Respiratory system.
STOT - repeated exposure No information available.
Target Organs: Skin. Respiratory system.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

Product code: A1651

Product name: AMMONIUM
PEROXYDISULFATE, CRYSTAL,
ELECTROPHORESIS GRADE

8 / 13

Ammonium Persulfate - 7727-54-0

Freshwater Fish Species Data: 103 mg/L LC50 Lepomis macrochirus 96 h static 1 76.3 mg/L LC50 Oncorhynchus mykiss 96 h static 1 323 mg/L LC50 Poecilia reticulata 96 h 1

Water Flea Data: 120 mg/L EC50 Daphnia magna 48 h

Persistence and degradability: No information available

Bioaccumulative potential: No information available.

Mobility: No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Components	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Ammonium Persulfate	7727-54-0	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: Not Regulated
Proper Shipping Name: Ammonium persulfate
Hazard Class: 5.1
Subsidiary Class: No information available
Packing group: No information available
Emergency Response Guide Number: No information available
Marine Pollutant: No data available
DOT RQ (lbs): No information available
Special Provisions: No Information available
Symbol(s): No information available
Description: UN1444,Ammonium persulfate ,5.1,PG III

TDG (Canada)

UN-No: UN1444
Proper Shipping Name: Ammonium persulfate
Hazard Class: 5.1
Subsidiary Risk: No information available
Packing Group: III
Marine Pollutant: No Information available
Description: UN1444,AMMONIUM PERSULFATE,5.1,PG III

ADR

UN-No: UN1444
Proper Shipping Name: Ammonium persulphate
Hazard Class: 5.1
Packing Group: III
Subsidiary Risk: No information available

Product code: A1651

Product name: AMMONIUM
PEROXYDISULFATE, CRYSTAL,
ELECTROPHORESIS GRADE

9 / 13

Description: UN1444 Ammonium persulphate,5.1,III

IMO / IMDG

UN-No: UN1444
Proper Shipping Name: Ammonium persulphate
Hazard Class: 5.1
Subsidiary Risk: No information available
Packing Group: III
Marine Pollutant
EMS: No information available
F-A

RID

UN-No: UN1444
Proper Shipping Name: Ammonium persulphate
Hazard Class: 5.1
Subsidiary Risk: No information available
Packing Group: III
Description: UN1444 Ammonium persulphate,5.1,III

ICAO

UN-No: UN1444
Proper Shipping Name: Ammonium persulphate
Hazard Class: 5.1
Subsidiary Risk: No information available
Packing Group: III
Description: UN1444,Ammonium persulphate,5.1,PG III

IATA

UN-No: UN1444
Proper Shipping Name: Ammonium persulphate
Hazard Class: 5.1
Subsidiary Risk: No information available
Packing Group: III
ERG Code: 5L
Special Provisions
Description: No information available
UN1444,Ammonium persulphate,5.1,PG III

15. REGULATORY INFORMATION

International Inventories

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Ammonium Persulfate	7727-54-0	PresentACTIVE	Present KE-09815	Present	Present (1)-406	Present	Present	Present 231-786-5

U.S. Regulations

Ammonium Persulfate

New Jersey RTK Hazardous Substance List: 0111

FDA - Direct Food Additives 21 CFR 172.892 (<=0.075%)

FDA - 21 CFR - Total Food Additives 172.892, 175.105, 176.170, 177.1200, 178.3520

- List Sourced from EAFUS

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Product code: A1651

Product name: AMMONIUM
PEROXYDISULFATE, CRYSTAL,
ELECTROPHORESIS GRADE

10 / 13

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	CAS-No.	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Ammonium Persulfate	7727-54-0	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CAS-No.	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
Ammonium Persulfate	7727-54-0	None	None	None	None	None

U.S. TSCA

Components	CAS-No.	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Ammonium Persulfate	7727-54-0	Not Applicable	Not Applicable

Canada**WHMIS 2015 - GHS Classifications**

WHMIS 2015 Hazard Classification Information:

Component
Ammonium Persulfate
7727-54-0 (100)

WHMIS 2015 Hazard Classification
Oxidizing solids - Category 3: H272 May intensify fire, oxidizer.;
Acute toxicity - Oral - Category 4: H302 Harmful if swallowed.;
Respiratory sensitizers - Category 1: H334 May cause allergic or asthmatic symptoms or breathing difficulties if inhaled.; Skin sensitizers - Category 1: H317 May cause allergic skin reaction.

Canada Hazardous Products Regulation This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

Inventory

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
Ammonium Persulfate	7727-54-0	Present	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
Ammonium Persulfate	7727-54-0	Not listed
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Ammonium Persulfate	7727-54-0	Not listed

EU Classification**EU GHS - SV - CLP 1272/2008**

Components	CAS-No.	EU GHS - SV - CLP (1272/2008)
Ammonium Persulfate	7727-54-0	Oxidizing solids - Ox. Sol. 3: H272

Product code: A1651

Product name: AMMONIUM PEROXYDISULFATE, CRYSTAL, ELECTROPHORESIS GRADE

11 / 13

		May intensify fire, oxidizer.; Acute toxicity - Oral - Acute Tox. 4: H302 Harmful if swallowed. (Minimum classification); Skin corrosion/irritation - Skin Irrit. 2: H315 Causes skin irritation.; Serious Eye Damage/Eye Irritation - Eye Irrit. 2: H319 Causes serious eye irritation.; Respiratory sensitizers - Resp. Sens. 1: H334 May cause allergic or asthmatic symptoms or breathing difficulties if inhaled.; Skin sensitizers - Skin Sens. 1: H317 May cause allergic skin reaction.; Specific target organ toxicity - Single exposure - STOT SE 3: H335 May cause respiratory irritation.016-060-00-6
--	--	---

EU - CLP (1272/2008)

R-phrase(s)

R 8 - Contact with combustible material may cause fire.
R22 - Harmful if swallowed.
R36/37/38 - Irritating to eyes, respiratory system and skin.
R42/43 - May cause sensitization by inhalation and skin contact.

S -phrase(s)

S 2 - Keep out of the reach of children.
S22 - Do not breathe dust.
S24 - Avoid contact with skin.
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S37 - Wear suitable gloves.

Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
Ammonium Persulfate	7727-54-0	Xn; R22 Xi; R36/37/38 R42/43 O; R8	No information	

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

O - Oxidising.
Xn - Harmful.
Xi - Irritant.



16. OTHER INFORMATION

Preparation Date: 05/27/2015
Revision Date: 10/31/2018
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet