



Material Safety Data Sheet

Creation Date 15-Jun-2009

Revision Date 22-Sep-2009

Revision Number 1

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	Ammonium Sulfide Solution
Cat No.	A705-225; A705-250; A705-500
Synonyms	Diammonium sulfide solution (Certified)
Recommended Use	Laboratory chemicals
Company Fisher Scientific One Reagent Lane Fair Lawn, NJ 07410 Tel: (201) 796-7100	Emergency Telephone Number CHEMTREC®, Inside the USA: 800-424-9300 CHEMTREC®, Outside the USA: 703-527-3887

2. HAZARDS IDENTIFICATION

DANGER!

Emergency Overview

Flammable liquid and vapor. Contact with acids liberates toxic gas. Causes burns by all exposure routes.

Appearance Yellow

Physical State Liquid

odor rotten-egg like; Stench

Target Organs Skin, Respiratory system, Eyes, Gastrointestinal tract (GI)

Potential Health Effects

Acute Effects

Principle Routes of Exposure

Eyes

Causes burns.

Skin

Causes burns. May be harmful in contact with skin.

Inhalation

Causes burns. May be harmful if inhaled.

Ingestion

Causes burns. May be harmful if swallowed.

Chronic Effects

None known.

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Haz/Non-haz

Component	CAS-No	Weight %
Water	7732-18-5	76 - 80
Ammonium sulfide	12135-76-1	20 - 24

4. FIRST AID MEASURES

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
Inhalation	Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Immediate medical attention is required.
Ingestion	Do not induce vomiting. Call a physician or Poison Control Center immediately.
Notes to Physician	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash Point	32.2°C / 90°F
Method	No information available.
Autoignition Temperature	No information available.
Explosion Limits	
Upper	No data available
Lower	No data available
Suitable Extinguishing Media	Cool closed containers exposed to fire with water spray. Dry chemical.
Unsuitable Extinguishing Media	No information available.
Hazardous Combustion Products	No information available.
Sensitivity to mechanical impact	No information available.
Sensitivity to static discharge	No information available.
Specific Hazards Arising from the Chemical	Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.
Protective Equipment and Precautions for Firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA **Health 3** **Flammability 2** **Instability 1** **Physical hazards N/A**

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Use personal protective equipment. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Remove all sources of ignition. Take precautionary measures against static discharges.
Environmental Precautions	Should not be released into the environment.
Methods for Containment and Clean Up	Soak up with inert absorbent material. Keep in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

7. HANDLING AND STORAGE

Handling	Use only under a chemical fume hood. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Use explosion-proof equipment. Do not breathe vapors/dust. Do not ingest. Take precautionary measures against static discharges.
Storage	Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area. Flammables area. Keep away from heat and sources of ignition.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Measures	Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting/equipment.
Exposure Guidelines	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

NIOSH IDLH: Immediately Dangerous to Life or Health

Personal Protective Equipment

Eye/face Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Yellow
odor	rotten-egg like; Stench
Odor Threshold	No information available.
pH	No information available.
Vapor Pressure	450 mmHg (20°C)
Vapor Density	> 1
Viscosity	No information available.
Boiling Point/Range	No information available.
Melting Point/Range	No information available.
Decomposition temperature °C	No information available.
Flash Point	32.2°C / 90°F

9. PHYSICAL AND CHEMICAL PROPERTIES

Evaporation Rate	No information available.
Specific Gravity	1.1
Solubility	Soluble in water
log Pow	No data available
Molecular Weight	68.14
Molecular Formula	H8 N2 S

10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions.
Conditions to Avoid	Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition.
Incompatible Materials	Strong oxidizing agents, Acids, Strong bases, copper
Hazardous Decomposition Products	Nitrogen oxides (NOx), Sulfur oxides, Ammonia
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions .	None under normal processing..

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information See actual entry in RTECS for complete information.

Component Information

Irritation Causes burns by all exposure routes

Toxicologically Synergistic Products No information available.

Chronic Toxicity

Carcinogenicity There are no known carcinogenic chemicals in this product

Sensitization No information available.

Mutagenic Effects No information available.

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

Other Adverse Effects See actual entry in RTECS for complete information. The toxicological properties have not been fully investigated..

Endocrine Disruptor Information No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Do not empty into drains.

Persistence and Degradability No information available

Bioaccumulation/ Accumulation No information available

Mobility No information available

Component	log Pow
Water	-1.87

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. TRANSPORT INFORMATION

DOT

UN-No UN2683
Proper Shipping Name AMMONIUM SULFIDE SOLUTION
Hazard Class 8
Subsidiary Hazard Class 6.1; 3
Packing Group II

TDG

UN-No UN2683
Proper Shipping Name AMMONIUM SULFIDE SOLUTION
Hazard Class 8
Subsidiary Hazard Class 6.1; 3
Packing Group II

IATA

UN-No UN2683
Proper Shipping Name Ammonium sulphide solution (Mixture)
Hazard Class 8
Subsidiary Hazard Class 3, 6.1
Packing Group II

14. TRANSPORT INFORMATION

IMDG/IMO

UN-No UN2683
 Proper Shipping Name Ammonium sulphide solution (Mixture)
 Hazard Class 8
 Subsidiary Hazard Class 3, 6.1
 Packing Group II

15. REGULATORY INFORMATION

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	CHINA	KECL
Water	X	X	-	231-791-2	-		X	-	X	X	X
Ammonium sulfide	X	X	-	235-223-4	-		X	X	X	X	KE-01710 X

Legend:

- X - Listed
- E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
- F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
- N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
- P - Indicates a commenced PMN substance
- R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
- S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
- T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
- XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).
- Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
- Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Ammonium sulfide	12135-76-1	20 - 24	1.0

SARA 311/312 Hazardous Categorization

Acute Health Hazard Yes
 Chronic Health Hazard No
 Fire Hazard Yes
 Sudden Release of Pressure Hazard No
 Reactive Hazard No

Clean Water Act

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Ammonium sulfide	X	-	-	-

Clean Air Act

Not applicable

OSHA

Not applicable

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Ammonium sulfide	100 lb	-

California Proposition 65

This product does not contain any Proposition 65 chemicals.

State Right-to-Know

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Ammonium sulfide	X	X	X	-	-

U.S. Department of Transportation

Reportable Quantity (RQ): Y

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade Serious risk, Grade 3

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

B2 Flammable liquid

D1B Toxic materials

E Corrosive material





16. OTHER INFORMATION

Prepared By Regulatory Affairs
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Revision Summary "****", and red text indicates revision

Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS

REVIEWED

DATE:

30 March 2012
Chatterford