

ABC Coke

Ammonium Sulfate Safety Data Sheet (SDS)

Section 1 – Chemical Product and Company Identification

1(a) Product Identifier: Ammonium Sulfate

1(b) Other means of identification:

1(c) Recommended use and restrictions on use:

1(d) Initial Supplier identifier:



ABC Coke Phone Number: (205) 849-1336
900 Huntsville Ave FAX: (205) 849-1391
Tarrant, Alabama 35217

1(e) Emergency phone number: 1-800-262-8200 (CHEMTREC)

Section 2 – Hazard(s) Identification

2(a) Classification of the Hazardous product: Ammonium Sulfate is not considered a hazardous material if properly used, according to the criteria specified in REACH [REGULATION (EC) No 1907/2006] and CLP [REGULATION (EC) No 1272/2008] and OSHA 29 CFR 1910.1200 Hazard Communication Standard. The categories of Health Hazards as defined in "GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS (GHS), Fifth revised edition ST/SG/AC.10/30/Rev. 5" United Nations, New York and Geneva, 2015 have been evaluated. Refer to Section 3, 8 and 11 for additional information.

2(b) Label Element(s):

Hazard Symbol	Hazard Classification	Signal Word	Hazard Statement(s)
	Skin Irritation - 2 Eye Irritation - 2A Acute toxicity (oral, dermal, inhalation) – 3 STOT SE- 3 Acute Tox Oral – 4 Hazards not otherwise classified – Combustible Dust	Warning	Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.
	Corrosive to Metals - 1		

Precautionary Statement(s):

Prevention	Response	Storage/Disposal
Wash thoroughly after handling. Do not eat, drink, smoke when using this product. Avoid breathing dust/fume/gas/mist/vapours and spray. Use only outdoors or in well ventilated area. Wear protective gloves / protective clothing / eye protection / face protection.	Specific treatment (see supplemental first aid instructions). Rinse mouth. Take off contaminated clothing and wash before reuse. IF SWALLOWED: Call a POISON CONTROL CENTER or doctor/physician if you feel unwell. IF ON SKIN: Wash with soap and water. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. If in eyes: rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.	Store locked up. Store in well ventilated place. Keep container tightly closed. Avoid contact with metals. Release to water may release ammonium ions. Ammonia is a toxic hazard to fish. Dispose of contents in accordance with federal, state and local regulations.

2(c) Other hazards known to the supplier with respect to the hazardous product: Combustible dust concentrations may form in air. (processing).

Section 3 – Composition/Information on Ingredients

3(a-c) Chemical name, common name (synonyms), CAS number and other identifiers, and concentration:

Ammonia Sulfate CAS Number: 7783-20-2

Chemical Name	CAS Number	EC Number	% weight
Ammonia Sulfate	7783-20-2	231-984-1	>98%
Aluminum Sulfate	10043-01-3	233-135-0	<2%

EC - European Community

CAS - Chemical Abstract Service

Note: The composition of the Ammonium Sulfate is highly variable dependent on proximity to the Coke Plant / By-Products and the amount of water condensed.

Section 4 – First-aid Measures

4(a) Description of necessary measures: Call a poison center/doctor/physician if you feel unwell

- **Inhalation:** If inhaled: Remove person to fresh air and keep comfortable for breathing. Seek medical advice if discomfort or irritation persists. If breathing difficult, give oxygen.
- **Eye Contact:** If in eyes: Protect unexposed eye. Rinse cautiously with water for 15-20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention if irritation persists or if concerned.
- **Skin Contact:** If on skin: Wash affected area with soap and water. Rinse/flush exposed skin gently for 15-20 minutes. Seek medical advice if discomfort or irritation persists.
- **Ingestion:** If swallowed: Rinse mouth thoroughly. Do NOT induce vomiting. Have exposed individual drink sips of water. Seek medical attention irritation, discomfort or vomiting persists.

4 (b) Acute Effects:

- **Inhalation:** Breathing may cause shortness of breath, irritation to the respiratory tract, headache.
- **Eye:** May cause irritation.
- **Skin:** May cause irritation to skin.
- **Ingestion:** May cause irritation to the gastrointestinal tract and/or nausea.

4 (b) Delayed (chronic) Effects:

Prolonged or repeated skin contact may cause dermatitis or irritation. Prolonged or repeated exposures may result in respiratory disorders (bronchitis), impaired lung function, soreness of mouth, discoloration and erosion of teeth.

4(c) Immediate Medical Attention and Special Treatment: Treat symptomatically, provide SDS to physician.

Section 5 – Fire-fighting Measures

5(a) Suitable (and unsuitable) Extinguishing Media: Use extinguishers appropriate for surrounding materials.

5(b) Specific Hazards arising from the hazardous product: Although it is not normally combustible, when stored properly, if stored near metals it can cause a violent reaction. Under fire conditions or when treated to decomposition, this substance can release toxic/corrosive fumes of sulfur dioxide, other oxides of sulfur, nitrogen oxide and ammonia. Thermal decomposition between 150-280 °C may produce nitrogen an asphyxiant.

5(c) Special protective equipment and precautions for fire-fighters: Self-contained MSHA/NIOSH approved respiratory protection and full protective clothing should be worn when fumes and/or smoke from fire are present. Heat and flames cause emittance of acrid smoke and fumes. Do not release runoff from fire control methods to sewers or waterways. Firefighters should wear full face-piece self-contained breathing apparatus and chemical protective clothing with thermal protection.

Section 6 - Accidental Release Measures

6(a) Personal Precautions, Protective Equipment and Emergency Procedures: Wear appropriate personal protective equipment as specified in Section 8. Contain and recover when possible. Collect in an appropriate container. Do not release into sewers or waterways. Label containers for recovery or disposal in accordance with federal, state, and local regulations.

6(b) Methods and materials for containment and clean up: Collect material in appropriate, labeled containers for recovery or disposal in accordance with federal, state, and local regulations.

Section 7 - Handling and Storage

7(a) Precautions for safe handling: Avoid direct contact on skin, eyes or on clothing. Observe proper industrial hygiene practices. Emergency safety showers and eye wash stations should be present.

7(b) Conditions for safe storage, including any incompatibilities: Isolate from incompatible substances.

Section 8 - Exposure Controls / Personal Protection

8(a) Control Parameters - Occupational Exposure Limits (OELs): The following exposure limits are offered as reference, for an experience industrial hygienist to review.

Ingredients	OSHA PEL ¹	ACGIH TLV ²	NIOSH REL ³	IDLH ⁴
Ammonium sulfate	15 mg/M ³ (as total nuisance dust)	10 mg/M ³ (as inhalable particles)		

NE - None Established

Section 8 - Exposure Controls / Personal Protection (continued)

8(a) Control Parameters - Occupational Exposure Limits (OELs) (continued):

1. OSHA Permissible Exposure Limits (PELs) are 8-hour TWA (time-weighted average) concentrations unless otherwise noted. A (C) designation denotes a ceiling limit, which should not be exceeded during any part of the working exposure unless otherwise noted. A Peak is defined as the acceptable maximum peak for a maximum duration above the ceiling concentration for an eight-hour shift. A skin notation refers to the potential significant contribution to the overall exposure by the cutaneous route, either by contact with vapors or, of probable greater significance, by direct skin contact with the substance. A Short Term Exposure Limit (STEL) is defined as a 15-minute exposure, which should not be exceeded at any time during a workday. An Action level (AL) is used by OSHA and NIOSH to express a health or physical hazard. They indicate the level of a harmful or toxic substance/activity, which requires medical surveillance, increased industrial hygiene monitoring, or biological monitoring. Action Levels are generally set at one half of the PEL but the actual level may vary from standard to standard. The intent is to identify a level at which the vast majority of randomly sampled exposures will be below the PEL.
2. Threshold Limit Values (TLV) established by the American Conference of Governmental Industrial Hygienists (ACGIH) are 8-hour TWA concentrations unless otherwise noted. A Short Term Exposure Limit (STEL) is defined as the maximum concentration to which workers can be exposed for a short period of time (15 minutes) for only four times throughout the day with at least one hour between exposures. A "skin" notation refers to the potential significant contribution to the overall exposure by the cutaneous route, either by contact with vapors or, of probable greater significance, by direct skin contact with the substance. ACGIH-TLVs are only recommended guidelines based upon consensus agreement of the membership of the ACGIH. As such, the ACGIH TLVs are for guideline use purposes and are not legal regulatory standards for compliance purposes. The TLVs are designed for use by individuals trained in the discipline of industrial hygiene relative to the evaluation of exposure to various chemical or biological substances and physical agents that may be found in the workplace.
3. The National Institute for Occupational Safety and Health Recommended Exposure Limits (NIOSH-REL) - Compendium of Policy and Statements. NIOSH, Cincinnati, OH (1992). NIOSH is the federal agency designated to conduct research relative to occupational safety and health. As is the case with ACGIH TLVs, NIOSH RELs are for guideline purposes only and as such are not legal, regulatory limits for compliance purposes.
4. The "immediately dangerous to life or health air concentration values (IDLHs)" are used by NIOSH as part of the respirator selection criteria and were first developed in the mid-1970's by NIOSH. The Documentation for Immediately Dangerous to Life or Health Concentrations (IDLHs) is a compilation of the rationale and sources of information used by NIOSH during the original determination of 387 IDLHs and their subsequent review and revision in 1994.

8(b) Appropriate Engineering Controls: Use controls as appropriate to minimize exposure to fumes, vapors, gases and heat during handling operations. Emergency eyewash/safety showers should be available in the immediate vicinity of use. Provide general or local exhaust ventilation systems to minimize airborne concentrations. Local exhaust is necessary for use in enclosed or confined spaces. Provide sufficient general/local exhaust ventilation in pattern/volume to control inhalation exposures below current exposure limits. It is recommended that all dust control equipment contain explosion relief valves or explosion suppression system or an oxygen deficient environment. Ensure that dust handling systems are designed to prevent the escape of dust into the work area.

8(c) Individual Protection Measures:

- **Respiratory Protection:** Not required under normal usage. However, if used in an aerosol or spray form then use only a MSHA/NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. Concentration in air of the various contaminants determines the extent of respiratory protection needed. Half-face, negative-pressure, air-purifying respirator equipped with an acid gas/organic cartridge is acceptable for concentrations up to 10 times the exposure limit. Full-face, negative-pressure, air-purifying respirator equipped with an acid gas/organic cartridge is acceptable for concentrations up to 50 times the exposure limit. Protection by air-purifying negative-pressure and powered air respirators is limited. Use a positive-pressure-demand, full-face, supplied air respirator or self-contained breathing apparatus (SCBA) for concentrations above 50 times the exposure limit. If exposure is above the IDLH (immediately dangerous to life or health) for any of the constituents, or there is a possibility of an uncontrolled release or exposure levels are unknown, then use a positive-demand, full-face, supplied air respirator with escape bottle or SCBA. **Warning!** Air-purifying respirators both negative-pressure, and powered-air do not protect workers in oxygen-deficient atmospheres.
- **Skin:** Persons handling this product should wear appropriate clothing to prevent skin contact. Wear protective gloves. Neoprene gloves
- **Eyes:** Wear appropriate eye protection to prevent eye contact. Use safety glasses with side shields or chemical goggles.
- **Other protective equipment:** An eyewash fountain and deluge shower should be readily available in the work area.



Section 9 - Physical and Chemical Properties

9(a) Appearance (physical state, color, etc.): solid white granules.
9(b) Odor: Odorless
9(c) Odor Threshold: ~ 17 ppm ammonia
9(d) pH: (10% aqueous solution) 3-4
9(e) Melting Point: 280°C
9(f) Boiling Point/Decomposes Range: 350 °C
9(g) Flash Point: NA
9(h) Evaporation Rate: (Water = 1): Insignificant
9(i) Flammability (solid, gas): Non-flammable, Non-Combustible

9(j) Upper/lower Flammability or Explosive Limits: ND
9(k) Vapor Pressure: 18.1 mm of Hg(@20°C)
9(l) Vapor Density (Air = 1): NA
9(m) Specific Gravity Density(Water =1): 0.913
9(n) Solubility: easily miscible in hot water/soluble in water
9(o) Partition Coefficient n-octanol/water: ND
9(p) Auto-ignition Temperature: ND
9(q) Decomposition Temperature: ND
9(r) Viscosity: ND

NA - Not Applicable ND - Not Determined for product as a whole

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Section 10 - Stability and Reactivity

- 10(a) Reactivity:** Stable under normal temperatures and pressures.
- 10(b) Chemical Stability:** Stable under normal storage and handling conditions.
- 10(c) Possibility of hazardous reaction:** None Known
- 10(d) Conditions to Avoid:** Avoid contact with moisture. Hydrolysis will slowly produce acids corrosive to metals.
- 10(e) Incompatible Materials:** Slightly reactive to oxidizing agents, metals, alkalis, or moisture. Non-reactive with reducing agents, combustible materials, organic materials and acids.

Section 11 - Toxicological Information

11(a-e) Information on Toxicological Effects: The following toxicity data has been determined for **Ammonium Sulfate** by using the information available for its components applied to the guidance on the preparation of an SDS under the GHS requirements of WHMIS 2015 and OSHA:

Hazard Classification	Hazard Category		Hazard Symbols	Signal Word	Hazard Statement
	WHMIS 2015	OSHA			
Skin Irritation (covers Category 2A, acute toxicity oral, dermal - 3 SE STOT- 3, Acute Oral 4)	2	2A		Warning	Causes skin irritation.
Eye Damage/Irritation (covers Categories 1, 2A and 2B)	2	1		Warning	Causes serious eye irritation.
Health Hazards Not Otherwise Classified (corrosion)	1	NA		NA	Causes severe damage to the respiratory tract.

Below is additional toxicological data regarding **Ammonium Sulfate**:

- a. LC50 Dermal (rat) >2000 mg/kg
- b. LD50 Oral (rat) 2840- 4540 mg/kg
LC50 =NA (Inhalation/Rat)
- c. No Respiratory Sensitization data available for **Ammonium Sulfate** as a mixture or its individual components.
- d. Germ Cell Mutagenicity data available for **Ammonium Sulfate** indicates that no chromosomal aberrations in mammalian and human cell cultures were observed.
- e. Carcinogenicity: IARC, NTP, and OSHA do not list **Ammonium Sulfate** as carcinogens.
- f. Toxic Reproduction data available for **Ammonium Sulfate**: a developmental study according to OECD TG 422 with up to 1500 mg/kg, of Ammonium Sulfate, no effects on development was detected in rats.

The above toxicity information was determined from available scientific sources to illustrate the prevailing posture of the scientific community. The scientific resources includes: The American Conference of Governmental Industrial Hygienist (ACGIH) Documentation of the Threshold Limit Values (TLVs) and Biological Exposure indices (BEIs) with Other Worldwide Occupational Exposure Values 2009, The International Agency for Research on Cancer (IARC), The National Toxicology Program (NTP) updated documentation, the World Health Organization (WHO) and other available resources, the International Uniform Chemical Information Database (IUCLID), European Union Risk Assessment Report (EU-RAR), Concise International Chemical Assessment Documents (CICAD), European Union Scientific Committee for Occupational Exposure Limits (EU-SCOEL), Agency for Toxic Substances and Disease Registry (ATSDR), Hazardous Substance Data Bank (HSDB), and International Programme on Chemical Safety (IPCS).

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Section 12 - Ecological Information

12(a) Ecotoxicity (aquatic & terrestrial):

Crustacea (water flea):

(24 Hr EC50 Daphnia magna: 423 mg/L

48 Hr LC50 Daphnia magna: 14 mg/L

Fish (freshwater fish):

96 Hr LC50 Leuciscus idus: 460 - 1000 mg/L [static] 96 Hr LC50 Brachydanio rerio: 250 mg/L

96 Hr LC50 Brachydanio rerio: 480 mg/L [flow-through] 96 Hr LC50 Brachydanio rerio: 420 mg/L [semi-static] 96 Hr LC50 Cyprinus carpio: 18 mg/L

96 Hr LC50 Pimephales promelas: >100 mg/L

96 Hr LC50 Oncorhynchus mykiss: 32.2-41.9 mg/L [flow-through] 96 Hr LC50 Oncorhynchus mykiss: 5.2-8.2 mg/L [static]

96 Hr LC50 Poecilia reticulata: 123-128 mg/L [semi-static] 96 Hr LC50 Poecilia reticulata: 126 mg/L Aquatic / Marine Toxicity: Avoid spills or releases to waterways. In water, ammonium sulfate releases ammonium ions, a toxicity hazard for aquatic organisms.

12(b) Persistence & Degradability: It is non-persistence. Readily degradable in the environment.

12(c) Bio-accumulative Potential: None when applied during normal agricultural practice.

12(d) Mobility (in soil): It will disperse in water.

12(e) Other adverse effects: None Known

Section 13 - Disposal Considerations

Disposal: Dispose of in accordance with Local, State, Federal and International regulations. Observe safe handling precautions.

Container Cleaning and Disposal: Follow Local, State, Federal and International regulations. Observe safe handling precautions.

Section 14 - Transport Information

14 (a-g) Transportation Information: Not regulated

Transport Dangerous Goods (TDG) Classification: Ammonium Sulfate does not have a TDG classification.

Shipping Name: Not Applicable (NA)

UN# (PIN): NA

Class: NA

Packing Group: NA

US Department of Transportation (DOT) under 49 CFR 172.101 does not regulate Ammonium Sulfate as a hazardous material. All Local, State, Federal and International regulations that apply to the transport of this type of material must be adhered to.

<p>Shipping Name: Not Applicable (NA)</p> <p>Shipping Symbols: NA</p> <p>Hazard Class: NA</p> <p>UN No.: NA</p> <p>Packing Group: NA</p> <p>DOT/IMO Label: NA</p> <p>Special Provisions (172.102): NA</p>	<p>Packaging Authorizations</p> <p>a) Exceptions: NA</p> <p>b) Group: NA</p> <p>c) Authorization: NA</p>	<p>Quantity Limitations</p> <p>a) Passenger, Aircraft, or Railcar: NA</p> <p>b) Cargo Aircraft Only: NA</p> <p>Vessel Stowage Requirements</p> <p>a) Vessel Stowage: NA</p> <p>b) Other: NA</p> <p>DOT Reportable Quantities: NA</p>
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International Maritime Dangerous Goods (IMDG) and the Regulations Concerning the International Carriage of Dangerous Goods by Rail (RID) classification, packaging and shipping requirements follow the US DOT Hazardous Materials Regulation.

<p>Shipping Name: Not Applicable (NA)</p> <p>Classification Code: NA</p> <p>UN No.: NA</p> <p>Packing Group: NA</p> <p>ADR Label: NA</p> <p>Special Provisions: NA</p> <p>Limited Quantities: NA</p>	<p>Packaging</p> <p>a) Packing Instructions: NA</p> <p>b) Special Packing Provisions: NA</p> <p>c) Mixed Packing Provisions: NA</p>	<p>Portable Tanks & Bulk Containers</p> <p>a) Instructions: NA</p> <p>b) Special Provisions: NA</p>
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International Air Transport Association (IATA) does not regulate Ammonium Sulfate as a hazardous material.

<p>Shipping Name: Not Applicable (NA)</p> <p>Class/Division: NA</p> <p>Hazard Label (s): NA</p> <p>UN No.: NA</p> <p>Packing Group: NA</p> <p>Excepted Quantities (EQ): NA</p>	Passenger & Cargo Aircraft		<p>Cargo Aircraft Only</p> <p>Pkg Inst: NA</p> <p>Max Net Qty/Pkg: NA</p>	<p>Special Provisions: NA</p> <p>ERG Code: NA</p>
	Limited Quantity (EQ)			
	Pkg Inst: NA	Pkg Inst: NA		
	Max Net Qty/Pkg: NA	Max Net Qty/Pkg: NA		

Pkg Inst – Packing Instructions

Max Net Qty/Pkg – Maximum Net Quantity per Package

ERG – Emergency Response Drill Code

Section 15 - Regulatory Information

Regulatory Information: *The following listing of regulations relating to an ABC Coke. product may not be complete and should not be solely relied upon for all regulatory compliance responsibilities.*

Other regulations: U.S. Emergency Planning and Community Right to Know Act (EPCRA):

Section 302: This product contains no Extremely Hazardous Substances.

Section 311/312 Hazard Categories: Acute

Section 313: Ammonium Salts are not specifically identified as being reportable EPCRA section 3 chemicals. However when dispersed in water the reportable quantity of ammonia is released.

HMIS Classification (Canadian): SEE SECTION 2 OF THE SDS FOR THE ACCURATE CLASSIFICATIONS FOR CURRENT WHMIS REQUIREMENTS, THE HAZARDS HAVE BEEN UPDATED TO THE MOST - STRICT REQUIREMENTS AND COMPLY WITH US AND CANADA GHS REQUIREMENTS.

Section 16 - Other Information

Prepared By: ABC Coke Company

Original Issue Date: 11/01/2009

Revision Date: 05/15/2019

Additional Information:

Hazardous Material Identification System (HMIS) Classification

Health Hazard	1
Fire Hazard	0
Physical Hazard	0

National Fire Protection Association (NFPA)



HEALTH= 1 Irritation or minor reversible injury possible.

FIRE= 0, Materials that will not burn.

PHYSICAL HAZARDS = 0, Materials that are normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosives.

HEALTH = 1, Materials that cause irritation upon exposure, but only minor injury is sustained even if no medical treatment is provided.

FIRE = 0, Materials that will not burn.

INSTABILITY = 0, Normally stable, even under fire exposure conditions, and are not reactive with water.

ABBREVIATIONS/ACRONYMS:

ACGIH	American Conference of Governmental Industrial Hygienists	NIF	No Information Found
BEIs	Biological Exposure Indices	NIOSH	National Institute for Occupational Safety and Health
CAS	Chemical Abstracts Service	NTP	National Toxicology Program
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	ORC	Organization Resources Counselors
CFR	Code of Federal Regulations	OSHA	Occupational Safety and Health Administration
CNS	Central Nervous System	PEL	Permissible Exposure Limit
GI, GIT	Gastro-Intestinal, Gastro-Intestinal Tract	PNOR	Particulate Not Otherwise Regulated
HMIS	Hazardous Materials Identification System	PNOC	Particulate Not Otherwise Classified
IARC	International Agency for Research on Cancer	PPE	Personal Protective Equipment
LC50	Median Lethal Concentration	ppm	parts per million
LD50	Median Lethal Dose	RCRA	Resource Conservation and Recovery Act
LD_{Lo}	Lowest Dose to have killed animals or humans	RTECS	Registry of Toxic Effects of Chemical Substances
LEL	Lower Explosive Limit	SARA	Superfund Amendment and Reauthorization Act
LOEL	Lowest Observed Effect Level	SCBA	Self-contained Breathing Apparatus
LOAEC	Lowest Observable Adverse Effect Concentration	SDS	Safety Data Sheet
µg/m³	microgram per cubic meter of air	STEL	Short-term Exposure Limit
mg/m³	milligram per cubic meter of air	TLV	Threshold Limit Value
mppcf	million particles per cubic foot	TWA	Time-weighted Average
MSHA	Mine Safety and Health Administration	UEL	Upper Explosive Limit
NFPA	National Fire Protection Association	WHMIS	Workplace Hazardous Materials Information System

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