Safety Data Sheet

Aries 0119

Section 1. Identification

Product Identifier	Aries 0119
Synonyms	Nutrient
Manufacturer Stock Numbers	N/A
Recommended use	Water treatment
Uses advised against	N/A

Manufacturer Contact

Address

Aries Chemical Incorporated
PO BOX 519
Beaver Falls, NY, 13305

Phone	Emergency Phone	Fax
(315) 346-1489	(800) 535-5053 INFOTRAC	(315) 346-1658

Email	Website
aries@arieschem.com	www.arieschem.com

Section 2. Hazards Identification

Classification	EYE DAMAGE/IRRITATION - Category 2A
Signal Word	Warning
Pictogram	
Hazard Statements	Causes serious eye irritation
Precautionary Statements	

Response	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation persists. IF INHALED: Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Call a POISON CENTER/physician if you feel unwell. IF ON SKIN (or hair): Remove contaminated clothing. Flush affected area with water for at least 15 minutes. Obtain medical attention if irritation persists. Wash clothing before reuse. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Seek immediate medical attention.
Prevention	Keep away from heat. Keep/Store away from clothing and other combustible materials. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.
Storage	Store in a cool, dry, well-ventilated area away from combustibles and sources of ignition. Keep container tightly closed. UAN is mildly corrosive to carbon steel. Protect container against corrosion and physicial damage. Protect against extremes in temperature. Heating above 140 F will promote hydrolysis. Extreme cold (below 32 F) can cause crystallization of the product. Do not allow liquid to evaporate as solid ammonium nitrate residue can explode.
Disposal	Dispose of contents/containers in accordance with local, state and federal regulations.

Ingredients of unknown toxicity	0%
Hazards not Otherwise Classified	No Data Available

Section 3. Ingredients

CAS	Ingredient Name	Weight %
1336-21-6	Ammonium hydroxide ((NH4)(OH))	Unknown %
6484-52-2	Ammonium nitrate	35% - 48%
57-13-6	Urea	28% - 38%
15978-77-5	Urea ammonium nitrate	100 %

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-Aid Measures

Eye	IF IN EYES: In case of contact with eyes flush immediately with plenty of flowing water for at least 15 minutes, holding eyelids apart. Remove contact lenses, if present and easy to do. Have victim "roll eyes". See a physician if symptoms

	persist.
Ingestion	IF SWALLOWED: do NOT induce vomiting. Rinse mouth with water. Call a physician immediately. Do not give anything by mouth unless instructed to do so by a poison center or a health care provider.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms persist.
Skin	IF ON SKIN: Wash off immediately with soap and plenty of water. Remove exposed or contaminated clothing, taking care not to contaminate eyes. Get medical attention if irritation develops and persists.
Additional Information	Most Important Symptoms and Effects, both Acute and Delayed: General: May cause irritation. Inhalation: May cause irritation to the respiratory tract. Skin: May cause skin irritation. Eye: Causes serious eye irritation. Symptoms may include redness, pain, swelling, itiching, burning, tearing, and blurred vision. Ingestion: Ingestion of ammonium nitrate may cause methemoglobinemia. Initial manifestation of methemoglobinemia is cyanosis, characterized by navy lips, tongue, and mucous membranes, with skin color being slate grey. Further manifestation is characterized by headache, weakness, dyspnea, dizziness, stupor, respiratory distress and death due to anoxia. If ingested, nitrates may be reduced to nitrites by bacteria in the digestive tract. Signs and symptoms of nitrite poisoning include methemoglobinemia, nausea, dizziness, increased heart rate, hypotension, fainting, and possibly shock. Overexposure to this material may result in methemoglobinemia. Indication of any immediate medical attention and special treatment needed: If exposed or concerned, get medical advice and attention. Hot ammonium nitrate burns skin, allowing rapid absorption of ammonium nitrate through the skin and toxic effects can occur rapidly. Causes methemoglobinemia - emergency response should treat appropriately, such as by intravenous administration of methylene blue.

Section 5. Fire Fighting Measures

Suitable Extinguishing Media	Use extinguishing media appropriate for surrounding fire.
Unsuitable Extinguishing Media	Do not use heavy water stream as it may spread fire.
Fire fighting instructions	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Water spray may be used to knock down escaping vapor. Stay upwind of fire. Move containers from fire area if possible to do so without risk to personnel. Cool exposed containers with water spray after extinguishing fire.
Unusual fire/explosion hazards	Containers can build up pressure if exposed to heat (fire).
Additional Information	Do not allow the product to evaporate to dryness. For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. -Specific hazards arising from the substance/mixture: Fire hazard: Contains substances that are oxidizers when in solid form. May

cause fire or explosion if allowed to dry.
Explosion hazard: May be explosive in contact with flammable or organic substances and confinement during fire.
Reactivity: Accelerates the rate of burning materials. Oxidizer if allowed to dry.
-Hazardous combustion products: Nitrogen oxides, ammonia, carbon oxides, toxic vapors

Section 6. Accidental Release Measures

Personal Precautions	Avoid contact with skin and eyes. Wear appropriate PPE (See section 8). Remove all sources of ignition.
Clean-up	Avoid runoff into storm sewers and ditches which lead to waterways.
Containment	Prevent further leakage or spillage if safe to do so. Dike large spills.
Collect	Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust.
Additional Information	Use special care to avoid static electric charges. Keep away from open flames, hot surfaces, and sources of ignition. No smoking. Avoid all contact with skin, eyes, or clothing. Avoid breathing vapor, mist, or spray.

Section 7. Handling and Storage

Handling	Wear appropriate personal protective equipment (See Section 8) when handling, including an approved respirator if mist or vapor levels exceed exposure limits. Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Use good housekeeping practices during storage, transfer and handling. Avoid contact with eyes, skin, and clothing. Avoid inhalation of vapor or mist. Do not breathe (vapor, mist). Use only in a well-ventilated area. Remove contaminated clothing and wash before reuse. Wash thoroughly after handling. Do NOT handle, store or open near an open flame, sources of heat or sources of ignition - No smoking. Keep the containers closed when not in use. Do not cut, grind or weld on or near container. Handle in accordance with good industrial hygiene and safety practice. All equipment used when handling the product must be grounded. Use spark-proof tools and equipment.
Storage	Store locked up in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible materials. Material should be stored in secondary containers or in a diked area, as appropriate. Floors should be sealed to prevent absorption of this material. If appropriate, post warning signs in storage and use areas. Inspect all incoming containers before storage to ensure containers are properly labeled and undamaged. Do not store near combustible materials or oxidizers. Keep away from sources of ignition. Material can ignite if dry. Do not allow material to completely dry. Avoid extreme temperatures. Avoid freezing. Mix well before using. Do not store near combustible materials. Keep away from heat and sources of ignition. Store away from incompatible materials. Store in a fireproof area.
Additional Information	Additional hazards: Smothering, contact with organic material, or combustible material may cause an explosive situation. Thoroughly wash out pipes, tanks, or valves before welding or burning. Residual solidified ammonium nitrate may

explode under high temperatures and confinement. Heating above 140 deg. F will promote hydrolysis. Extreme cold (<32 deg. F) may cause crystallization of the product. Do not allow liquid to evaporate, as solid ammonium nitrate residue can explode.

Technical measures for storage: Any proposed use of this product in elevated temperatures should be thoroughly evaluated to ensure that safe operations are established and maintained. Ventilate confined spaces before entering. Proper grounding procedures to avoid static electricity should be followed. Comply with applicable regulations.

Detached outdoor storage is preferable.
Incompatible materials: Strong acids, strong bases, strong oxidizers, chlorine, hypochlorites, metallic powders, combustible materials, chromates, zinc, copper and its alloys, chlorates

Section 8. Exposure Controls/Personal Protection

Occupational Exposure Limits

Ingredient Name	ACGIH TLV	OSHA PEL	STEL
Ammonium hydroxide ((NH4)(OH))	N/A	N/A	N/A
Ammonium nitrate	N/A	N/A	N/A
Urea	N/A	N/A	N/A
Urea ammonium nitrate	N/A	N/A	N/A

Personal Protective Equipment
Goggles, Gloves, Apron, Respirator

Engineering controls
Observe published airborne exposure limits. Use mechanical ventilation such as dilution and local exhaust. Ensure adequate ventilation. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Eye protection
Use approved safety goggles or safety glasses, as described in OSHA 29 CFR 1910.133. Splash goggles with a faceshield may be needed if splash hazards exist.

Hand/skin protection
Wear chemical resistant gloves and impermeable protective clothing.

Skin and body protection
Wear a protective suit or lab apron.

Respiratory protection
If exposures exceed the PEL or TLV, use NIOSH/MSHA approved respirator in accordance with OSHA Respiratory Protection Requirements unders 29 CFR 1910.134. If there are no applicable or established exposure limit requirements or guidelines, general ventilation should be sufficient.

Additional Information
Gas detectors should be used when toxic gases may be released. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use explosion-proof equipment. Ensure all national/local regulations are observed. Provide sufficient ventilation to keep ammonia vapors below the permissible exposure limit.

Although standards for UAN solution, ammonium nitrate solution and urea solution have not been established by OSHA or ACGIH, the following standards for ammonia are applicable since UAN contains free ammonia.
ACGIH TLV: 25 ppm (17 mg/m3) TWA; 35 ppm (24 mg/m3) STEL
OSHA PEL: 50 ppm (35 mg/m3) TWA

NIOSH IDLH: 300 ppm

Section 9. Physical and Chemical Properties

Physical State	Liquid
Color	Colorless
Odor	Little or no ammonia odor
Odor Threshold	No data available
Solubility	Miscible
Partition coefficient Water/n-octanol	Urea: -1.59, Ammonium nitrate: -3.1
VOC%	N/A
Viscosity	6.1 cP (32%N)
Specific Gravity	N/A
Density lbs/Gal	N/A
Pounds per Cubic Foot	N/A
Flash Point	No data available
FP Method	N/A
pH	6.5-7.8
Melting Point	32 F (32%N)
Boiling Point	>212 F
Boiling Range	No data available
LEL	N/A
UEL	N/A
Evaporation Rate	No data available
Flammability	No data available
Decomposition Temperature	No data available
Auto-ignition Temperature	No data available
Vapor Pressure	0.06 (32%N)
Vapor Density	No data available

Additional Information: Specific gravity: 1.28-1.38

Section 10. Stability and Reactivity

Reactivity	Accelerates the rate of burning materials. Oxidizer if allowed to dry.
Stability	May cause fire or explosion. Strong oxidizer.
Hazardous polymerization	Hazardous polymerization will not occur under normal storage and handling.
Additional Information	-Conditions to avoid: Extreme temperatures, open flame, heat, sparks, high pressures (explodes if heated under confinement). Do not allow product to dry. -Materials to avoid: Strong acids, strong bases, strong oxidizers, chlorine, hypochlorites, chlorates, metallic powders, chromates, zinc, copper and its alloys, combustible materials. -Hazardous decomposition products: Nitrogen oxides, ammonia, carbon oxides.

Section 11. Toxicological Information

Inhalation	May cause respiratory irritation.
Eye contact	Causes serious eye irritation. Symptoms may include redness, pain, swelling, itching, burning, tearing and blurred vision.
Skin contact	May cause skin irritation.
Sensitization	Not classified.
Mutagenicity	Not classified.
Carcinogenicity	Not classified.
Reproductive toxicity	Not classified.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not classified.
Additional Information	Toxicity data: -Urea (57-13-6): LD50/Oral/Rat = 8,471 mg/kg -Ammonium nitrate (6484-52-2): LD50/Oral/Rat = 2,217 mg/kg LC50/Inhalation/Rat/4hr: >88.8 mg/L Symptoms/Injuries after ingestion: Ammonium nitrate: Ingestion may cause methemoglobinemia. Initial manifestation of methemoglobinemia is cyanosis, characterized by navy lips, tongue and mucous membranes, with skin color being slate grey. Further manifestation is characterized by headache, weakness, dyspnea, dizziness, stupor, respiratory distress and death due to anoxia. If ingested, nitrates may be reduced to nitrites by bacteria in the digestive tract. Signs and symptoms of nitrite poisoning include methemoglobinemia, nausea, dizziness, increased heart rate, hypotension, fainting and possibly shock.

Section 12. Ecological Information

Aquatic toxicity	See information below.
Mobility	No data available.
Persistence and degradability	No information available.
Bioaccumulative potential	No information available.
Additional Information	Aquatic toxicity data: LC50/Ceriodaphnia dubia/48 hr: 348 mg/L

Section 13. Disposal

Disposal	Dispose of in accordance with federal, state and local regulations. Do not discharge into sewer or surface water.

Section 14. Transport Information

UN Number	N/A
UN Proper Shipping Name	Not classified as dangerous in the meaning of transport regulations.
DOT Classification	N/A
Packing Group	N/A

Section 15. Regulatory Information

TSCA	The ingredients of this product are either listed on or exempt from listing on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory.
SARA Section 311/312 Hazard Categories	Acute - Yes Chronic - No Fire - No Pressure - No Reactivity - No
Additional Information	FEDERAL REGULATIONS *Even though ammonium salts are not specifically identified as being reportable EPCRA Section 313 chemicals, water dissociable ammonia salts like ammonium nitrate, when placed in water, become reportable as aqueous ammonia. STATE RIGHT-TO-KNOW LISTS -Ammonium nitrate (6484-52-2): Massachusetts, New Jersey, Pennsylvania -Urea (57-13-6): Minnesota

Section 16. Other Information

Revision Date	8/18/2020
Version Number	3
Reason for Revision	Updated in accordance with new version of manufacturer document.
Disclaimer	While Aries Chemical Inc. believes the data set forth herein is accurate as of the date hereof, Aries Chemical makes no warranty with respect thereto and expressly disclaims all liability for refinance thereon of such data and is offered solely for your consideration, investigation and verification.