



## SAFETY DATA SHEET

### SECTION I - IDENTIFICATION

**PRODUCT NAME:** Ammonium nitrate  
**CAS #:** 6484-52-2  
**Manufacturer's Name:** CHEM-IS-TRY, INC.  
**Address:** 160-4 LIBERTY ST.  
METUCHEN, NJ 08840  
**Telephone #:** (732) 372- 7311      Secondary Telephone No: CHEMTREC  
**FAX #:** (732) 372- 7312      (800) 424-9300  
24 Hours a Day

#### **Relevant identified uses of the substance or mixture and uses advised against**

Identified uses: Laboratory chemicals, synthesis of substances

### SECTION II - HAZARDS IDENTIFICATION

#### **Classification of the substance or mixture**

#### **GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Oxidizing solids (Category 3), H272 Eye irritation (Category 2A), H319 For the full text of the H-Statements mentioned in this Section, see Section XVI.

#### **GHS Label elements, including precautionary statements**

Pictogram



Signal word

Warning

Hazard statement(s)

H272

May intensify fire, oxidizer.

H319

Causes serious eye irritation.

Precautionary statement(s)

P210

Keep away from heat.

P220

Keep/Store away from clothing/ combustible materials.

P221

Take any precaution to avoid mixing with combustibles.

P264

Wash skin thoroughly after handling.

P280

Wear protective gloves/ eye protection/ face protection.

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313

If eye irritation persists: Get medical advice/ attention.

P370 + P378

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

P501

Dispose of contents/ container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC) or not covered by GHS - None

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### **SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS**

#### **Substances**

Formula:  $\text{H}_4\text{N}_2\text{O}_3$   
Molecular Weight: 80.04 g/mol  
CAS-No.: 6484-52-2  
EC-No.: 229-347-8

#### **Hazardous components**

Component	Classification	Concentration
<b>Ammonium nitrate</b>	Ox. Sol. 3; Eye Irrit. 2A; H272, H319	<= 100%

For the full text of the H-Statements mentioned in this Section, see Section 16.

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### **SECTION IV - FIRST AID MEASURES**

#### **Description of first aid measures**

**General advice**, Consult a physician. Show this material safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled**, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**, wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**, flush eyes with water as a precaution. Consult a physician.

**If swallowed**, never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### **Most important symptoms and effects, both acute and delayed.**

The most important known symptoms and effects are described in the labelling (see section II) and/or in section XI.

#### **Indication of any immediate medical attention and special treatment needed**

No data available.

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### **SECTION V - FIREFIGHTING MEASURES**

#### **Extinguishing media**

##### **Suitable extinguishing media**

Dry powder Dry sand

##### **Special hazards arising from the substance or mixture**

Nitrogen oxides (NOx) Not combustible.

##### **Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

##### **Further information**

Use water spray to cool unopened containers.

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## **SECTION VI - ACCIDENTAL RELEASE MEASURES**

### **Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section VIII.

### **Environmental precautions**

Do not let product enter drains.

### **Methods and materials for containment and cleaning up**

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section XIII). Keep in suitable, closed containers for disposal.

### **Reference to other sections**

For disposal see section XIII.

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## **SECTION VII - HANDLING AND STORAGE**

### **Precautions for safe handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Keep away from heat and sources of ignition.

For precautions see section 2.2.

### **Conditions for safe storage, including any incompatibilities**

Keep container tightly closed in a dry and well-ventilated place.

Hygroscopic. Store under inert gas.

Storage class (TRGS 510): 5.1C: Ammonium nitrate and ammonium nitrate containing preparations

### **Specific end use(s)**

Apart from the uses mentioned in section 1, no other specific uses are stipulated

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## **SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **Control parameters**

#### **Components with workplace control parameters**

Contains no substances with occupational exposure limit values.

### **Exposure controls**

#### **Appropriate engineering controls**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday

### **Personal protective equipment**

#### **Eye/face protection**

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### **Body Protection**

Impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### **Control of environmental exposure**

Do not let product enter drains.

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### **SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES**

#### **Information on basic physical and chemical properties**

a) Appearance:	Form: solid Color: white
b) Odor:	Stench
c) Odor Threshold:	No data available
d) pH:	4.5 - 6.0 at 80.40 g/l at 25 °C (77 °F)
e) Melting point/freezing point:	Melting point/range: 169 °C (336 °F) - lit.
f) Initial boiling point and boiling range:	210 °C 410 °F - lit
g) Flash point:	No data available
h) Evaporation rate:	No data available
i) Flammability (solid, gas):	No data available
j) Upper/lower flammability or explosive limits:	No data available
k) Vapor pressure:	No data available
l) Vapor density:	2.8
m) Relative density:	1.725 g/cm <sup>3</sup> at 25 °C (77 °F)
n) Water solubility:	No data available
o) Partition coefficient: n-octanol/water	No data available
p) Auto-ignition temperature:	No data available
q) Decomposition temperature:	> 180 °C (> 356 °F) -
r) Viscosity:	No data available
s) Explosive properties:	No data available
t) Oxidizing properties:	The substance or mixture is classified as oxidizing with the category 3.

**Other safety information**

No data available

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**SECTION X - STABILITY AND REACTIVITY****Reactivity**

No data available

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

No data available

**Conditions to avoid**

No data available

**Incompatible materials**

Reducing agents, Powdered metals, Strong acids, Strong oxidizing agents

**Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - Nitrogen oxides (NO<sub>x</sub>)

Other decomposition products - No data available

In the event of fire: see section V.

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**SECTION XI - TOXICOLOGICAL INFORMATION****Information on toxicological effects****Acute toxicity**

LD50 Oral - Rat - male and female - 2,950 mg/kg

(OECD Test Guideline 401)

LC50 Inhalation - Rat - 4 h - > 88.8 mg/l

Remarks: (IUCLID)

LD50 Dermal - Rat - male and female - > 5,000 mg/kg

(OECD Test Guideline 402)

**Skin corrosion/irritation:**

Skin - Rabbit Result: No skin irritation - 4 h (OECD Test Guideline 404)

**Serious eye damage/eye irritation:**

Eyes - Rabbit

Result: Irritating to eyes. - 24 h

(OECD Test Guideline 405)

**Respiratory or skin sensitization:**

Local lymph node assay (LLNA) - Mouse

Result: negative

(OECD Test Guideline 429)

**Germ cell mutagenicity:**

No data available

Mutagenicity (mammal cell test): chromosome aberration.

Chinese hamster ovary cells

Result: negative Ames test

Salmonella typhimurium

Result: negative

(IUCLID)

### **Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### **Reproductive toxicity**

No data available

### **Specific target organ toxicity - single exposure**

Inhalation - May cause respiratory irritation.

Acute oral toxicity - Nausea, Vomiting, Diarrhea, Irritations of mucous membranes in the mouth, pharynx, esophagus, and gastrointestinal tract.

Acute inhalation toxicity - Symptoms may be delayed., mucosal irritations

### **Specific target organ toxicity - repeated exposure**

No data available

### **Aspiration hazard**

No data available

### **Additional Information**

Repeated dose toxicity - Rat - male and female - Oral - NOAEL (No observed adverse effect level) - 256 - 284 mg/kg (in analogy to similar products) RTECS: BR9050000

Gastrointestinal disturbance, Blood disorders

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

After absorption of large quantities:

Methaemoglobinaemia with headache, cardiac arrhythmia, drop in blood pressure, dyspnea, and spasms, key symptom: cyanosis (blue coloration of the blood).

The following applies to ammonium salts in general: after swallowing: local irritation symptoms, nausea, vomiting, diarrhea. Systemic effect: after the uptake of very large quantities: drop in blood pressure, collapse, CNS disorders, spasms, narcotic conditions, respiratory paralysis, hemolysis.

Other dangerous properties cannot be excluded. Handle in accordance with good industrial hygiene and safety practice.

Stomach - Irregularities - Based on Human Evidence

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**SECTION XII - ECOLOGICAL INFORMATION****Toxicity**

Toxicity to fish	semi-static test LC50 - Cyprinus carpio (Carp) - 447 mg/l - 48 h Remarks: (ECHA)
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 490 mg/l - 48 h Remarks: (ECHA)
Toxicity to algae	static test ErC50 - diatoms - > 1,700 mg/l - 10 Days Remarks: (in analogy to similar products)
Toxicity to bacteria	EC50 - activated sludge - > 1,000 mg/l - 3 h (OECD Test Guideline 209) Remarks: (in analogy to similar products)

**Persistence and degradability**

The methods for determining biodegradability are not applicable to inorganic substances.

**Bioaccumulative potential**

No data available

**Mobility in soil**

No data available

**Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**Other adverse effects**

Biological effects: Hazard for drinking water supplies. Fertilizing effect possible. Discharge into the environment must be avoided.

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**SECTION XIII - DISPOSAL CONSIDERATIONS****Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product.

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**SECTION XIV - TRANSPORT INFORMATION****DOT (US)**

UN number: 1942                      Class: 5.1                      Packing group: III  
Proper shipping name: Ammonium nitrate  
Reportable Quantity (RQ):  
Poison Inhalation Hazard: No

**IMDG**

UN number: 1942                      Class: 5.1                      Packing group: III  
Proper shipping name: Ammonium nitrate

**IATA**

UN number: 1942                      Class: 5.1                      Packing group: III  
Proper shipping name: Ammonium nitrate

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**SECTION XV - REGULATORY INFORMATION****SARA 302 Components**

This material does not contain any components with a section 302 EHS TPQ

**SARA 313 Components**

The following components are subject to reporting levels established by SARA Title III, Section 313:

	CAS-No.	Revision Date
Ammonium nitrate	6484-52-2	1993-04-24

**SARA 311/312 Hazards**

Reactivity Hazard, Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**

No components are subject to the Massachusetts Right to Know Act.

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**SECTION XVI - OTHER INFORMATION****Disclaimer:**

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