



KOCH FERTILIZER CANADA LTD

## MATERIAL SAFETY DATA SHEET

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Koch Fertilizer Canada Ltd.**  
**1400 17th Street East**  
**Brandon, MB R7A 7C4**  
**1-316-828-7672**  
**kochmsds@kochind.com**

**SPILL/EMERGENCY CONTACT:**  
**CHEMTREC: 1-800-424-9300 (U.S.)**  
**Emergency Response Assistance Plan:**  
**1-204-729-2999**  
**To Request An MSDS: 1-316-828-7672**

**MSDS NUMBER:** 232061

**TRADE NAMES:**  
 AMMONIUM THIOSULFATE SOLUTION

**SYNONYMS:**  
 ATS; AMMONIUM THIOSULFATE SOLUTION 15-0-0-20

**PRODUCT USE:** agricultural

**REVISION DATE:** Sept 21 2007

### 2. HAZARDS IDENTIFICATION

**NFPA RATINGS (SCALE 0-4):** HEALTH=1 FIRE=0 REACTIVITY=0



**EMERGENCY OVERVIEW:**

**SIGNAL WORD:** DANGER!

**MAJOR HEALTH HAZARDS:** No significant target effects reported.

**POTENTIAL HEALTH EFFECTS:**

**INHALATION:**

**SHORT TERM EXPOSURE:** irritation, cough, sore throat, itching, difficulty breathing, wheezing, asthma, bluish skin color, lung congestion, blood disorders

**LONG TERM EXPOSURE:** irritation, allergic reactions, lung damage

**SKIN CONTACT:**

**SHORT TERM EXPOSURE:** irritation

**LONG TERM EXPOSURE:** irritation

**EYE CONTACT:**

**SHORT TERM EXPOSURE:** irritation

**LONG TERM EXPOSURE:** irritation

**INGESTION:**

**SHORT TERM EXPOSURE:** allergic reactions, sore throat, itching, nausea, vomiting, gastrointestinal irritation, stomach pain, difficulty breathing, wheezing, asthma, bluish skin color, blood disorders

**LONG TERM EXPOSURE:** blood disorders, kidney damage

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### 3. COMPOSITION, INFORMATION ON INGREDIENTS

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**COMPONENT:** AMMONIUM THIOSULFATE

**CAS NUMBER:** 7783-18-8

**PERCENTAGE:** 40-50

**COMPONENT:** AMMONIUM NITRATE

**CAS NUMBER:** 6484-52-2

**PERCENTAGE:** 8-10

**COMPONENT:** UREA

**CAS NUMBER:** 57-13-6

**PERCENTAGE:** 6-8

**COMPONENT:** AMMONIUM SULFITE

**CAS NUMBER:** 10196-04-0

**PERCENTAGE:** <5

**COMPONENT:** WATER

**CAS NUMBER:** 7732-18-5

**PERCENTAGE:** 30-50

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### 4. FIRST AID MEASURES

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**INHALATION:** If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

**SKIN CONTACT:** Wash with soap or mild detergent and large amounts of water until no evidence of chemical remains (at least 15-20 minutes). Get immediate medical attention. Place contaminated clothing in a closed container until laundered or discarded. Contaminated clothing should be removed and laundered before reuse. Notify person laundering clothing of contaminant's hazardous properties. Discard contaminated leather goods.

**EYE CONTACT:** Immediately flush eyes with plenty of water for at least 30 minutes. Hold eyelids away from the eyeball to ensure thorough rinsing. Get immediate medical attention.

**INGESTION:** If swallowed, drink plenty of water, do NOT induce vomiting. Do not give anything by mouth to unconscious or convulsive person. Keep warm and at rest. Get immediate medical attention.

**NOTE TO PHYSICIAN:** Signs and symptoms of CNS depression, confusion and convulsions should be considered in the assessment and treatment of victims of exposure.

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## 5. FIRE FIGHTING MEASURES

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**FIRE AND EXPLOSION HAZARDS:** Negligible fire hazard. This material is a moderate reducing hazard. Mixtures with urea ammonium nitrate or ammonium nitrate solutions should not be allowed to dry. Dry mixtures of these substances, or other oxidizers, constitute a potential fire and explosion hazard.

**EXTINGUISHING MEDIA:** carbon dioxide, regular dry chemical, regular foam, water

**FIRE FIGHTING:** Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Do not get water directly on material. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

**SENSITIVITY TO MECHANICAL IMPACT:** No

**SENSITIVITY TO STATIC DISCHARGE:** No

**FLASH POINT:** not flammable

### **HAZARDOUS COMBUSTION PRODUCTS:**

Combustion products: Heating to dryness may cause the release of ammonia, ammonium sulfate, hydrogen sulfide, sulfur and oxides of sulfur., Ammonia and hydrogen sulfide may form flammable mixtures with air.

Thermal decomposition or combustion products: ammonia, ammonium compounds, hydrogen sulfide, oxides of sulfur, sulfur

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## 6. ACCIDENTAL RELEASE MEASURES

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### **WATER RELEASE:**

Keep out of water supplies and sewers.

### **OCCUPATIONAL RELEASE:**

Do not touch spilled material. Stop leak if possible without personal risk. Small spills: Absorb with sand or other non-combustible material. Small dry spills: Collect spilled material in appropriate container for disposal. Keep unnecessary people away, isolate hazard area and deny entry. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA).

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## 7. HANDLING AND STORAGE

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**STORAGE:** Store and handle in accordance with all current regulations and standards. Store in a cool, dry place. Store in a tightly closed container. Store in a well-ventilated area. Avoid heat, flames, sparks and other sources of ignition. Empty containers may contain product residue. Do not reuse containers without adequate precautions. Keep separated from incompatible substances. Store below 88 C. Store in lined, coated, or stainless steel equipment. Do not install immersion heaters in storage tanks. **DO NOT ALLOW TO DRY!**

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## 8. EXPOSURE CONTROLS, PERSONAL PROTECTION

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**EXPOSURE LIMITS:****UREA:**

No occupational exposure limits established.

**VENTILATION:** General or local exhaust ventilation and other forms of engineering controls are the preferred means for controlling exposures. If ventilation cannot reduce airborne concentrations below acceptable limits, appropriate respiratory protection should be used.

**EYE PROTECTION:** Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

**CLOTHING:** Wear appropriate chemical resistant clothing.

**GLOVES:** Wear appropriate chemical resistant gloves.

**RESPIRATOR:** A NIOSH approved air-purifying respirator with an appropriate cartridge or canister may be appropriate under certain circumstances where airborne concentrations are expected to exceed exposure limits. Appropriate respirator selection should be made by a qualified professional as part of a comprehensive respiratory protection program as described in 29 CFR 1910.134. Protection provided by air-purifying respirators is limited and should not be used in atmospheres deficient in oxygen or where airborne concentrations are immediately dangerous to life or health. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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**PHYSICAL STATE:** liquid

**APPEARANCE:** clear

**COLOR:** white

**PHYSICAL FORM:** solution

**ODOR:** faint odor, ammonia odor

**BOILING POINT:** Not available

**FREEZING POINT:** -31 F (-35 C)

**VAPOR PRESSURE:** Not available

**VAPOR DENSITY:** Not available

**SPECIFIC GRAVITY (water=1):** 1.310 @ 16 C

**BULK DENSITY:** 10.92 lbs/gal

**WATER SOLUBILITY:** miscible

**PH:** 7.5

**VOLATILITY:** Not available

**ODOR THRESHOLD:** Not available

**EVAPORATION RATE:** Not available

**COEFFICIENT OF WATER/OIL DISTRIBUTION:** Not available

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## 10. STABILITY AND REACTIVITY

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**REACTIVITY:** Stable at normal temperatures and pressure. Unstable at elevated temperatures. Avoid strong heating, open flame and ignition sources.

**CONDITIONS TO AVOID:** Avoid heat, flames, sparks and other sources of ignition. May ignite or explode on contact with combustible materials. Unstable above 150 C.

**INCOMPATIBILITIES:** acid solutions above pH 5.8, ammonia compounds, ammonium polysulfide solutions, bases, dry ammonium nitrate, dry urea ammonium nitrate, oxidizing materials, zinc sulfate

**HAZARDOUS DECOMPOSITION:**

Combustion products: Heating to dryness may cause the release of ammonia, ammonium sulfate, hydrogen sulfide, sulfur and oxides of sulfur., Ammonia and hydrogen sulfide may form flammable mixtures with air.

Decomposition products on contact with acids: sulfur compounds

Thermal decomposition or combustion products: ammonia, ammonium compounds, hydrogen sulfide, oxides of sulfur, sulfur

**POLYMERIZATION:** Will not polymerize.

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## 11. TOXICOLOGICAL INFORMATION

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**AMMONIUM THIOSULFATE SOLUTION:**

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** respiratory disorders

**AMMONIUM THIOSULFATE:**

**TOXICITY DATA:** 2890 mg/kg oral-rat LD50

**ACUTE TOXICITY LEVEL:**

Moderately Toxic: ingestion

**AMMONIUM NITRATE:**

**TOXICITY DATA:** 2217 mg/kg oral-rat LD50

**LOCAL EFFECTS:**

Irritant: inhalation, skin, eye

**ACUTE TOXICITY LEVEL:**

Moderately Toxic: ingestion

**UREA:**

**IRRITATION DATA:** 22 mg/3 day(s)-intermittent skin-human mild; 20 percent/24 hour(s) skin-human moderate

**TOXICITY DATA:** >2100 mg/kg skin-rabbit LD50; 8471 mg/kg oral-rat LD50

**LOCAL EFFECTS:**

Irritant: eye

**ACUTE TOXICITY LEVEL:**

Slightly Toxic: ingestion

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** eye disorders, kidney disorders, respiratory disorders, skin disorders and allergies

**TUMORIGENIC DATA:** Available.

**MUTAGENIC DATA:** Available.

**REPRODUCTIVE EFFECTS DATA:** Available.

**AMMONIUM SULFITE:**

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** respiratory disorders

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## 12. ECOLOGICAL INFORMATION

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Not available

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## 13. DISPOSAL CONSIDERATIONS

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This product, as supplied, when discarded or disposed of, is not a hazardous waste according to 40 CFR 261. Dispose in accordance with all applicable regulations.

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## 14. TRANSPORT INFORMATION

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**U.S. DEPARTMENT OF TRANSPORTATION:** No classification assigned.

**CANADIAN TRANSPORTATION OF DANGEROUS GOODS:** No classification assigned.

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## 15. REGULATORY INFORMATION

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**U.S. REGULATIONS:**

**CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):**

**AMMONIUM SULFITE:** 5000 LBS RQ

**SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.30):**  
Not regulated.

**SARA TITLE III SECTION 304 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.40):**  
Not regulated.

**SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370.21):**

ACUTE: No

CHRONIC: No

FIRE: No

REACTIVE: No

SUDDEN RELEASE: No

**SARA TITLE III SECTION 313 (40 CFR 372.65):** Not regulated.

**OSHA PROCESS SAFETY (29CFR1910.119):** Not regulated.

**CLEAN AIR ACT:** This product does not contain any component listed as a hazardous air pollutant under Title III of the Clean Air Act Amendment of 1990.

**STATE REGULATIONS:**

**California Proposition 65:** Not regulated.

**NEW JERSEY WORKER AND COMMUNITY RIGHT TO KNOW:** This MSDS was prepared in accordance with the New Jersey Worker and Community Right-to-Know Act.

**PENNSYLVANIA RIGHT TO KNOW:** This MSDS was prepared in accordance with the Pennsylvania Worker and Community Right-to-Know Act.

**CANADIAN REGULATIONS:**

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

**WHMIS CLASSIFICATION:** Not a Controlled Product under Canada's Workplace Hazardous Material Information System.

**NATIONAL INVENTORY STATUS:**

**U.S. INVENTORY (TSCA):** All the components of this substance are listed on or are exempt from the inventory.

**TSCA 12(b) EXPORT NOTIFICATION:** Not listed.

**CANADA INVENTORY (DSL/NDL):** All components of this product are listed on the DSL.

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**16. OTHER INFORMATION**

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**MSDS SUMMARY OF CHANGES**

- 2. HAZARDS IDENTIFICATION
- 3. COMPOSITION, INFORMATION ON INGREDIENTS
- 5. FIRE FIGHTING MEASURES
- 10. STABILITY AND REACTIVITY

**NOTICE:** The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Safety Data Sheet. However, MSDS may not be used as a commercial specification sheet of manufacturer or seller, and no warranty or representation, expressed or implied, is made as to the accuracy or comprehensiveness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. In addition, no responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product.