



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: 232062

TRADE NAMES:
UREA

SYNONYMS:
CARBAMIDE; CARBAMIDIC ACID; STCC 2818170

CHEMICAL FAMILY: carbamides, organic, amides

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: CAUTION!

MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation, toxic gas, may release toxic ammonia gas

PHYSICAL HAZARDS: Dust/air mixtures may ignite or explode.

POTENTIAL HEALTH EFFECTS:

INHALATION:

SHORT TERM EXPOSURE: irritation, cough, sore throat, difficulty breathing

LONG TERM EXPOSURE: lung damage

SKIN CONTACT:

SHORT TERM EXPOSURE: irritation, itching

LONG TERM EXPOSURE: irritation, itching

EYE CONTACT:**SHORT TERM EXPOSURE:** irritation, eye damage**LONG TERM EXPOSURE:** no information on significant adverse effects**INGESTION:****SHORT TERM EXPOSURE:** gastrointestinal irritation, sore throat, stomach pain**LONG TERM EXPOSURE:** no information on significant adverse effects

3. COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: UREA**CAS NUMBER:** 57-13-6**PERCENTAGE:** 98.7**COMPONENT:** NON-HAZARDOUS INGREDIENTS**CAS NUMBER:** Not assigned.**PERCENTAGE:** 1.3

4. FIRST AID MEASURES

INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. 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 medical attention if irritation develops or persists. 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:** Flush eyes with plenty of water for at least 15 minutes. Hold eyelids away from the eyeball to ensure thorough rinsing. Get immediate medical attention.**INGESTION:** If a large amount is swallowed, get medical attention.

5. FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Slight fire hazard. Dust/air mixtures may ignite or explode. Sodium hypochlorite or calcium hypochlorite may react with urea to form nitrogen trichloride which explodes spontaneously in air.**EXTINGUISHING MEDIA:** regular dry chemical, carbon dioxide, water, regular foam

Large fires: Use regular foam or flood with fine water spray.

FIRE FIGHTING: Move container from fire area if it can be done without risk. Do not scatter spilled material with high-pressure water streams. Dike for later disposal. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

SENSITIVITY TO MECHANICAL IMPACT: No

SENSITIVITY TO STATIC DISCHARGE: No

FLASH POINT: not flammable

HAZARDOUS COMBUSTION PRODUCTS:

Thermal decomposition or combustion products: ammonia, biuret, cyanide compounds, oxides of carbon, oxides of nitrogen

6. ACCIDENTAL RELEASE MEASURES

WATER RELEASE:

Keep out of water supplies and sewers.

OCCUPATIONAL RELEASE:

Collect spilled material in appropriate container for disposal. Keep out of water supplies and sewers. Keep unnecessary people away, isolate hazard area and deny entry.

7. HANDLING AND STORAGE

STORAGE: Store and handle in accordance with all current regulations and standards. Store in a tightly closed container. Store in a cool, dry place. 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.

HANDLING: Do not cut, puncture, or weld on or near this container. Minimize dust generation and accumulation. When using, do not eat, drink or smoke. Avoid contact with eyes, skin and clothing. Use methods to minimize dust.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

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.

PROTECTIVE MATERIAL TYPES: cotton

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: solid

COLOR: white

CHANGE IN APPEARANCE: hygroscopic

PHYSICAL FORM: granules

ODOR: faint odor, ammonia odor

TASTE: cool taste

MOLECULAR WEIGHT: 60.06

MOLECULAR FORMULA: H₂-N-C-O-N-H₂

BOILING POINT: Not applicable

MELTING POINT: 270.9 F (132.7 C)

VAPOR PRESSURE: Not applicable

VAPOR DENSITY: Not applicable

SPECIFIC GRAVITY: Not available

WATER SOLUBILITY: 108% @ 20 C (in hot water)

PH: 8-8.5 (10% solution)

VOLATILITY: 0 % by volume

ODOR THRESHOLD: Not available

EVAPORATION RATE: Not applicable

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available

10. STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: Avoid heat, flames, sparks and other sources of ignition. Avoid contact with incompatible materials.

INCOMPATIBILITIES: acids, bases, combustible materials, metal salts, oxidizing materials, reducing agents, Sodium hypochlorite or calcium hypochlorite may react with urea to form nitrogen trichloride which explodes spontaneously in air.

HAZARDOUS DECOMPOSITION:

Thermal decomposition or combustion products: ammonia, biuret, cyanide compounds, oxides of carbon, oxides of nitrogen

POLYMERIZATION: Will not polymerize.

11. TOXICOLOGICAL INFORMATION

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 (American Industrial Hygiene Association 1988); 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, blood system disorders

TUMORIGENIC DATA: Available.

MUTAGENIC DATA: Available.

REPRODUCTIVE EFFECTS DATA: Available.

12. ECOLOGICAL INFORMATION

ECOTOXICITY DATA:

FISH TOXICITY: 22500 ug/L 96 hour(s) LC50 (Mortality) Mozambique tilapia (*Tilapia mossambica*)

INVERTEBRATE TOXICITY: >10 g/L 24 hour(s) EC50 (Abundance) Water flea (*Daphnia magna*)

ALGAL TOXICITY: 140 ug/L 5 hour(s) (Photosynthesis) Diatom (*Phaeodactylum tricornutum*)

OTHER TOXICITY: <=1000000 ug/L 96 week(s) (Teratogenesis) Frog (*Microhyla ornata*)

FATE AND TRANSPORT:

BIODEGRADATION: This substance will promote algae growth which may degrade water quality and taste.

ENVIRONMENTAL SUMMARY: Moderately toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS

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.

14. TRANSPORT INFORMATION

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

CANADIAN TRANSPORTATION OF DANGEROUS GOODS: No classification assigned.

15. REGULATORY INFORMATION

U.S. REGULATIONS:

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4): Not regulated.

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): Listed on inventory.

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

CANADA INVENTORY (DSL/NDSL): Listed on DSL.

16. OTHER INFORMATION

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.