

UREA

J.T.BAKER MSDS

## PRODUCT IDENTIFICATION

PRODUCT NAME: UREA  
COMMON SYNONYMS: CARBAMIDE; CARBONYL DIAMIDE; CARBONYLDIAMINE; ISOUREA  
CHEMICAL FAMILY: AMIDES  
FORMULA:  $\text{NH}_2\text{CONH}_2$   
FORMULA WT.: 60.06  
CAS NO.: 57-13-6  
NIOSH/RTECS NO.: YR6250000  
PRODUCT USE: LABORATORY REAGENT  
PRODUCT CODES: X331,4204,4021,4205,4836,4021,4111,4203,4206,4021,5594

CHEMTREC # (800) 424-9300  
NATIONAL RESPONSE CENTER # (800) 424-8802  
J.T.BAKER INC.  
222 RED SCHOOL LANE  
PHILLIPSBURG, NJ 08865  
24-HOUR EMERGENCY TELEPHONE -- (201) 859-2151

EFFECTIVE: 02/07/94 ISSUED: 10/01/94  
REVISION #05

## PRECAUTIONARY LABELING

BAKER SAF-T-DATA\* SYSTEM

HEALTH	-	0	NONE
FLAMMABILITY	-	1	SLIGHT
REACTIVITY	-	0	NONE
CONTACT	-	1	SLIGHT

## LABORATORY PROTECTIVE EQUIPMENT

GOGGLES; LAB COAT

## U.S. PRECAUTIONARY LABELING

## CAUTION

MAY CAUSE IRRITATION. MAY BE HARMFUL IF INHALED.  
DURING USE AVOID CONTACT WITH EYES, SKIN, CLOTHING. WASH THOROUGHLY AFTER  
HANDLING. WHEN NOT IN USE KEEP IN TIGHTLY CLOSED CONTAINER.

## INTERNATIONAL LABELING

AVOID CONTACT WITH EYES. AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH  
PLENTY OF WATER. KEEP CONTAINER TIGHTLY CLOSED.

SAF-T-DATA\* STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

MATERIAL SAFETY DATA SHEET

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COMPONENTS

COMPONENT	CAS NO.	WEIGHT %	OSHA/PEL	ACGIH/TLV
UREA	57-13-6	99-100	N/E	N/E

PHYSICAL DATA

BOILING POINT: N/A VAPOR PRESSURE (MMHG): N/A  
MELTING POINT: 56 C (132 F) VAPOR DENSITY (AIR=1): N/A  
(AT 760 MM HG)  
SPECIFIC GRAVITY: 1.34 EVAPORATION RATE: N/A  
(H2O=1)  
SOLUBILITY(H2O): APPRECIABLE (>10%) % VOLATILES BY VOLUME: 0  
(21 C)  
PH: N/A  
ODOR THRESHOLD (P.P.M.): N/A PHYSICAL STATE: SOLID  
COEFFICIENT WATER/OIL DISTRIBUTION: N/A  
APPEARANCE & ODOR: WHITE CRYSTALS. ODORLESS.

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (CLOSED CUP): N/A  
AUTOIGNITION TEMPERATURE: N/A  
FLAMMABLE LIMITS: UPPER - N/A LOWER - N/A  
FIRE EXTINGUISHING MEDIA  
USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.  
SPECIAL FIRE-FIGHTING PROCEDURES  
FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED  
BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN POSITIVE PRESSURE  
MODE.  
UNUSUAL FIRE & EXPLOSION HAZARDS  
DUST MAY FORM EXPLOSIVE MIXTURE WITH AIR. NOTE: DECOMPOSES AT BOILING  
POINT.  
TOXIC GASES PRODUCED  
AMMONIA, CARBON MONOXIDE, CARBON DIOXIDE, OXIDES OF NITROGEN  
EXPLOSION DATA-SENSITIVITY TO MECHANICAL IMPACT  
NONE IDENTIFIED.

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## FIRE AND EXPLOSION HAZARD DATA (Cont.)

EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE  
NONE IDENTIFIED.

## HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV/TWA): NOT ESTABLISHED

SHORT-TERM EXPOSURE LIMIT (STEL): NOT ESTABLISHED

PERMISSIBLE EXPOSURE LIMIT (PEL): NOT ESTABLISHED

## TOXICITY OF COMPONENTS

ORAL RAT LD50 FOR UREA

14.3 G/KG

SUBCUTANEOUS RAT LD50 FOR UREA

8200 MG/KG

INTRAVENOUS MOUSE LD50 FOR UREA

4600 MG/KG

CARCINOGENICITY: NTP: NO IARC: NO Z LIST: NO OSHA REG: NO

## CARCINOGENICITY

NONE IDENTIFIED.

## REPRODUCTIVE EFFECTS

NONE IDENTIFIED.

## EFFECTS OF OVEREXPOSURE

INHALATION: IRRITATION OF UPPER RESPIRATORY TRACT

SKIN CONTACT: IRRITATION

EYE CONTACT: IRRITATION

SKIN ABSORPTION: NONE IDENTIFIED

INGESTION: NAUSEA, VOMITING, DIARRHEA, GASTROINTESTINAL IRRITATION

CHRONIC EFFECTS: NONE IDENTIFIED

## TARGET ORGANS

RESPIRATORY SYSTEM

## MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

ASTHMA, KIDNEY DISORDERS, RESPIRATORY SYSTEM DISEASE

## PRIMARY ROUTES OF ENTRY

INHALATION, INGESTION, SKIN CONTACT, EYE CONTACT

## EMERGENCY AND FIRST AID PROCEDURES

INGESTION: IF SWALLOWED AND THE PERSON IS CONSCIOUS, IMMEDIATELY GIVE

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## HEALTH HAZARD DATA (Cont.)

LARGE AMOUNTS OF WATER. GET MEDICAL ATTENTION.

INHALATION: IF A PERSON BREATHES IN LARGE AMOUNTS, MOVE THE EXPOSED PERSON TO FRESH AIR.

SKIN CONTACT: IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH PLENTY OF SOAP AND WATER FOR AT LEAST 15 MINUTES.

EYE CONTACT: IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES.

## SARA/TITLE III HAZARD CATEGORIES AND LISTS

ACUTE: YES CHRONIC: YES FLAMMABILITY: NO PRESSURE: NO REACTIVITY: NO

EXTREMELY HAZARDOUS SUBSTANCE: NO

CERCLA HAZARDOUS SUBSTANCE: NO  
SARA 313 TOXIC CHEMICALS: NO  
TSCA INVENTORY: YES

## REACTIVITY DATA

STABILITY: STABLE HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: HEAT, MOISTURE

INCOMPATIBLES: STRONG OXIDIZING AGENTS, STRONG BASES, STRONG ACIDS

DECOMPOSITION PRODUCTS: HYDROGEN CYANIDE, AMMONIA, OXIDES OF NITROGEN, CARBON MONOXIDE, CARBON DIOXIDE

## SPILL &amp; DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE

WEAR SUITABLE PROTECTIVE CLOTHING. CAREFULLY SWEEP UP AND REMOVE.

DISPOSAL PROCEDURE

DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

## INDUSTRIAL PROTECTIVE EQUIPMENT

VENTILATION: USE ADEQUATE GENERAL OR LOCAL EXHAUST VENTILATION TO KEEP FUME OR DUST LEVELS AS LOW AS POSSIBLE.

RESPIRATORY PROTECTION: NONE REQUIRED WHERE ADEQUATE VENTILATION CONDITIONS EXIST. IF AIRBORNE CONCENTRATION IS HIGH, USE AN APPROPRIATE RESPIRATOR OR DUST MASK.

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## INDUSTRIAL PROTECTIVE EQUIPMENT (Cont.)

EYE/SKIN PROTECTION: SAFETY GOGGLES, BUTYL RUBBER GLOVES ARE RECOMMENDED.

## STORAGE AND HANDLING PRECAUTIONS

SAF-T-DATA\* STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

## STORAGE REQUIREMENTS

KEEP CONTAINER TIGHTLY CLOSED. SUITABLE FOR ANY GENERAL CHEMICAL STORAGE AREA. ISOLATE FROM INCOMPATIBLE MATERIALS.

## TRANSPORTATION DATA AND ADDITIONAL INFORMATION

## DOMESTIC (D.O.T.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)

## INTERNATIONAL (I.M.O.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)  
MARINE POLLUTANTS: NO

## AIR (I.C.A.O.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)

U.S. CUSTOMS HARMONIZATION NUMBER: 31021000009

NOTE: WHEN HANDLING LIQUID PRODUCTS, SECONDARY PROTECTIVE CONTAINERS MUST BE USED FOR CARRYING.

N/A = NOT APPLICABLE, OR NOT AVAILABLE

N/E = NOT ESTABLISHED.

THE INFORMATION IN THIS MATERIAL SAFETY DATA SHEET MEETS THE REQUIREMENTS OF THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ACT AND REGULATIONS PROMULGATED THEREUNDER (29 CFR 1910.1200 ET. SEQ.) AND THE CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. THIS DOCUMENT IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE MATERIAL BY A PERSON TRAINED IN, OR SUPERVISED BY A PERSON TRAINED IN, CHEMICAL HANDLING. THE USER IS RESPONSIBLE FOR DETERMINING THE PRECAUTIONS AND DANGERS OF THIS CHEMICAL FOR HIS OR HER PARTICULAR APPLICATION. DEPENDING ON USAGE, PROTECTIVE CLOTHING INCLUDING EYE AND FACE GUARDS AND RESPIRATORS MUST BE USED TO AVOID CONTACT WITH MATERIAL OR BREATHING CHEMICAL VAPORS/FUMES.

EXPOSURE TO THIS PRODUCT MAY HAVE SERIOUS ADVERSE HEALTH EFFECTS. THIS CHEMICAL MAY INTERACT WITH OTHER SUBSTANCES. SINCE THE POTENTIAL USES ARE SO VARIED, BAKER CANNOT WARN OF ALL OF THE POTENTIAL DANGERS OF USE OR INTERACTION WITH OTHER CHEMICALS OR MATERIALS. BAKER WARRANTS THAT THE CHEMICAL MEETS THE SPECIFICATIONS SET FORTH ON THE LABEL.

BAKER DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE.

THE USER SHOULD RECOGNIZE THAT THIS PRODUCT CAN CAUSE SEVERE INJURY AND EVEN



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TRANSPORTATION DATA AND ADDITIONAL INFORMATION (Cont.)

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DEATH, ESPECIALLY IF IMPROPERLY HANDLED OR THE KNOWN DANGERS OF USE ARE NOT HEEDDED. READ ALL PRECAUTIONARY INFORMATION. AS NEW DOCUMENTED GENERAL SAFETY INFORMATION BECOMES AVAILABLE, BAKER WILL PERIODICALLY REVISE THIS MATERIAL SAFETY DATA SHEET.

NOTE: CHEMTREC, CANUTEC, AND NATIONAL RESPONSE CENTER EMERGENCY TELEPHONE NUMBERS ARE TO BE USED ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS. ALL NON-EMERGENCY QUESTIONS SHOULD BE DIRECTED TO CUSTOMER SERVICE (1-800-JTBAKER) ASSISTANCE.

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