

ARCADIAN CORP -- UREA, SOLID -- 6810-01-198-9398

===== Product Identification =====

Product ID:UREA, SOLID

MSDS Date:04/15/1995

FSC:6810

NIIN:01-198-9398

MSDS Number: BXTMZ

=== Responsible Party ===

Company Name:ARCADIAN CORP

Address:6750 POPLAR, SUITE 600

City:MEMPHIS

State:TN

ZIP:38138-7419

Country:US

Info Phone Num:800-524-0132

Emergency Phone Num:800-424-9300(CHEMTREC)/800-524-0132

Preparer's

Name:VIRGIL W. FOWLER

CAGE:01KQ2

=== Contractor Identification ===

Company Name:ARCADIAN CORP

Address:6750 POPLAR AVE

Box:City:MEMPHIS

State:TN

ZIP:38138

Country:US

Phone:800-654-4514

CAGE:01KQ2

Company Name:FEDERAL CONTRACT SERVICES, DIV OF FREELANDER CONSU

Address:9716 OLD KATY RD. #114

Box:City:HOUSTON

State:TX

ZIP:77055-6209

Country:US

Phone:713-668-9000

CAGE:01BX5

===== Composition/Information on Ingredients =====

Ingred Name:UREA

CAS:57-13-6

RTECS #:YR6250000

Fraction

by Wt: 97-98%  
Other REC Limits:NONE RECOMMENDED

Ingred Name:BIURET  
Fraction by Wt: 0-1%  
Other REC Limits:NONE RECOMMENDED

Ingred Name:METHYLENE DIUREA  
CAS:68611-64-3  
Fraction by Wt: 0-1%  
Other REC Limits:NONE RECOMMENDED

Ingred Name:UREA, FEED GRAD UREA, 96.75-98.25%.  
CAS:57-13-6  
RTECS #:YR6250000  
Fraction by Wt: SEE ING  
Other REC Limits:NONE RECOMMENDED

Ingred Name:CLAY, 1.75-3.25  
Fraction by Wt: SEE ING  
Other REC Limits:NONE RECOMMENDED

Ingred Name:NITROGEN, TOTAL  
Fraction by Wt: 45-46.5%  
  
Other REC Limits:NONE RECOMMENDED

===== Hazards Identification =====

LD50 LC50 Mixture:DOMESTIC ANIMAL ORAL LD50=511MG/KG.  
Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES  
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO  
Health Hazards Acute and Chronic:INHAL:MAY CAUSE RESP TRACT IRRIT  
ALTHOUGH NO INCIDENTS OF DUST INHAL HEALTH EFFECTS HAVE BEEN  
REPORTED.INGEST:MAY CAUSE GI DISTURBANCES.SINGLE DOSE OF 100 G  
REPORTEDLY CAUSED MILD SYMPT  
OMS OF CNS DEPR ESSION.SKIN:SLIGHTLY  
IRRIT.REPEAT/PROLONG CONTACT MAY CAUSE  
REDDENING,ITCH,INFLAMM.CONTACT W/HEATED MATL CAUSE (SUPPLEM)  
Explanation of Carcinogenicity:PER MSDS:CARCINOGEN  
NTP/IARC/OSHA/ACGIH:NO.  
Effects of Overexposure:RESP TRACT IRRIT. GI DISTURBANCES:IRRIT,  
NAUSEA, VOMIT,DIARRHEA. CNS DEPRESSION:DROWSINESS,SLOW REFLEXES.  
SKIN IRRIT, REDDENING, ITCHING, INFLAMMATION. THERMAL BURNS. EYE  
IRRIT.  
Medical Cond Aggravated by Exposure:NONE SPECIFIED BY MANUFACT

URER.

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===== First Aid Measures =====

First Aid:EYE:PROMPTLY FLUSH W/WATER.CONT FOR 15MINS OPENING EYELIDS.IRRIT PERSISTS CONSULT DR IMMED.SKIN:WASH THORO W/SOAP/WATER.CONTACT W/MOLTEN PRODUCT DO NOT REMOVE CLOTHING.FLUSH SKIN IMMED W/COLD WATER.IN HAL:REMOVE FRM EXPO.NOT BREATH ENSURE OPEN AIRWAY & INSTITUTE CPR.BREATH DIFFICULT ADMINISTER OXY IF AVAILABLE.GET MED ATTN.INGEST:DO NOT INDUCE VOMIT.KEEP WARM/TREAT FOR SHOCK.GET MED ATT N.(SUPPLEME)

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===== Fire Fighting Measures =====

Extinguishing Media:ALL STD AGENTS ARE ACCEPTABLE.USE EXTINGUISHING AGENT SUITABLE FOR SURROUNDING FIRE.MATL ITSELF BURNS W/DIFFICULTY.  
Fire Fighting Procedures:UREA BECOMES SLIPPERY WHEN WET-GUARD AGAINST SLIPS/FALLS.EXPO FIREFIGHTERS HOULD WEAR MSHA/NIOSH APPROVED SCBA W/FULL FACEPCE/FULL PROT CLOTH.  
Unusual Fire/Explosion Hazard:HEAT >270F DECOMP TO BIURET,AMMONIA,NITROGEN OXIDES.SHORTTERM EXPO TO SMOKE/GASES MAY LEAD TO IRREVER LUNG INJURY W/O EARLY SIGNS/SYMP.MAY FORM EXPLO (SUPPLEME)

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===== Accidental Release Measures =====

Spill Release Procedures:IF UNCONTAMINATED RECOVER & REUSE AS PRODUCT. PREVENT LARGE QUANTITITES FROM CONTACTING VEGETATION OR WATERWAYS. KEEP AWAY FROM LARGE SPILLS.  
Neutralizing Agent:NONE SPECIFIED BY MANUFACTURER.

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===== Handling and Storage =====

Handling and Storage Precaution  
s:AVOID CONTACT W/EYES & REP/PROL CONTACT W/SKIN/CLOTH.AVOID DUST INHAL.STORE IN CLSD CNTNRS IN COOL DRY ISOLATED WELL VENTI AREA AWAY FRM HEAT/IGN SOUR  
Other Precautions:AVOID CONTAMINATION W/OTHER LOOK ALIKE MATLS THAT MAY PRODUCE FIRE/EXPLO. UREA IS A NATURALLY OCCURRING CHEMICAL IN BODY. IT'S AN END PRODUCT OF PROTEIN NMETABOLISM & IS EXCRETED IN THE URINE. NOTE:FE ED GRADE UREA DOES NOT CONTAIN BIURET.

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===== Exposure Controls/Personal Protection =====

Respiratory Protection:NORMALLY NONE NEEDED. USE NIOSH/MSHA APPROVED EQPMT WHEN AIRBORNE EXPOSURE LIMITS ARE EXCEEDED. NIOSH/MSHA APPROVED BREATHING EQPMT MUST BE AVAILABLE FOR NON-ROUTINE & EMERGENCY USE.

Ventilation:PROVIDE LOCAL OR GENERAL VENTILATION TO KEEP NUISANCE DUST LIMIT OF 15MG/MS.

Protective Gloves:IMPERVIOUS BUTYL RUBBER GLOVES.

Eye Protection:SAF GLASSES OR CHEM GOGGLES.

Other Protective Equipment:DO NOT WEAR CONTACT LENSES WHEN WORKING W/THIS MATL.EYEWASH FAC

ILITIES.PROT CLOTH TO PREVENT SKIN CONTACT.MATL:BUTYL RUB

Work Hygienic Practices:LAUNDER CONTAMIN CLOTHING BEFORE REUSE. NO EPA HAZ SUBSTANCES NOR TOX CHEMICALS.

Supplemental Safety and Health

PH 7-10(10%AQU SOLN). EXPLO/FIRE HAZ:MIXTURE W/STRONG

ACID(NITRIC/PERCHLORIC). AVOID MATLS:BASES,NITRATES,RXS W/SODIUM OR CALCIUM HYPOCHLORITE TO FORM EXPLO NITROGEN TRICHLORIDE. HEALTH HAZ:THERM BURN S.EYES:IRRIT.CONTACT W/HEATED MATL MAY CAUSE THERM BURNS. 1ST AID:IN EVENT OF ANY

MED EMERG W/PROD SEE DR/POI CNTRL CNTR.

===== Physical/Chemical Properties =====

HCC:N1

Melt/Freeze Pt:M.P/F.P Text:271F,133C

pH:SUPPLE

Solubility in Water:119G/100G @68F.

Appearance and Odor:WHITE SOLID, SPHERICAL OR GRANULAR SHAPE W/SLIGHT AMMONIA ODOR.

===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid:YES

CNTNRS/PIPE/FITTINGS MADE OF BRASS,BRONZE,OTHER CU-BEARING ALLOYS OR GALVANIZED METALS;ST

ONG OXIDIZERS,ACIDS,(SUPPLEME)

Stability Condition to Avoid:MAY SLOWLY HYDROLYZE TO AMMONIUM CARBAMATE ON LONG STANDING WHICH DECOMPO TO AMMONIA & CO2.

Hazardous Decomposition Products:IRRIT TOXIC SUBSTANCES MAY BE EMITTED UPON THERM DECOMPO.DECOMP TO AMMONIA,BIURET,NITROGEN OXIDES,CARBON OXIDES.

===== Disposal Considerations =====

Waste Disposal Methods:AQUA TOXICITY CONSIDERATION INDICATES LOW ORDER OF TOXICITY.SINCE UREA IS FERTILIZER MAY PRO

MOTE EUTROPHICATION IN

WATERWAYS.DISPOSAL SUBJ TO FED/STATE/LOC REGS.USERS SHOULD REVIEW  
OPERATIONS IN TERMS OF APPLICABLE LAWS/REGS.CONSULT W/APPRO REG  
AGENC

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