ATTN: SAFETY DIRECTOR
UNIVERSITY OF WISCONSIN
WHITEWATER
ACCOUNTS PAYABLE
PO BOX 296
WHITEWATER WI 53190-0296

EMERGENCY PHONE 1-314-771-5765
DATE 06/04/96
CUST#: 2-097-94804
PO#: UNF-64248

MATERIAL SAFETY DATA SHEET

THIS MSDS IS FOR A COMPONENT OF CATALOG #: 520

SECTION 1. - - - - - - - CHEMICAL IDENTIFICATION - - - - - - -

CATALOG #: 520-40
NAME: DIACTYL

SECTION 2. - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - -

CAS #: 431-03-8
MF: C4H6O2
EC NO: 207-069-8

SYNONYMS:
DIACTYL * BUTADIONE * 2,3-BUTADIONE * BUTANEDIONE (DOT) * DIACTYL *
2,3-DIKTOKETYATANÅ * DIKTOKETYATANÅ * DIMETHYLGLOXAL *
DIMETHYL - UN2346 (DOT) *

SECTION 3. - - - - - - HAZARDS IDENTIFICATION - - - - - -

LABEL PRECAUTIONARY STATEMENTS

FLAMMABLE (USA DEFINITION)
HARMFUL (EUROPEAN DEFINITION)
HARMFUL BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
STENCH.
KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING.
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
WATER AND SEEK MEDICAL ADVICE.
WEAR SUITABLE PROTECTIVE CLOTHING.

SECTION 4. - - - - - - - FIRST-AID MEASURES - - - - - - -

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH COPIOUS
AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED
CLOTHING AND SHOES.
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL
RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.
CALL A PHYSICIAN.
REMOVE AND WASH CONTAMINATED CLOTHING PROMPTLY.

SECTION 5. - - - - - - - FIRE FIGHTING MEASURES - - - - - - -

EXTINGUISHING MEDIA:
CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.
WATER MAY BE EFFECTIVE FOR COOLING, BUT MAY NOT EFFECT EXTINGUISHMENT.

SPECIAL FIREFIGHTING PROCEDURES

CONTINUED ON NEXT PAGE
THIS MSDS IS FOR A COMPONENT OF CATALOG #: 520

CATALOG #: 520-40
NAME: DIACETYL

WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.

FLAMMABLE.

USE WATER SPRAY TO COOL FIRE-EXPOSED CONTAINERS.

UNUSUAL FIRE AND EXPLOSIONS HAZARDS

VAPOR MAY TRAVEL CONSIDERABLE DISTANCE TO SOURCE OF IGNITION AND FLASH BACK.

CONTAINER EXPLOSION MAY OCCUR UNDER FIRE CONDITIONS.

FORMS EXPLOSIVE MIXTURES IN AIR.

SECTION 6. - - - - - - ACCIDENTAL RELEASE MEASURES - - - - - - - - - - -

EVACUATE AREA.

SHUT OFF ALL SOURCES OF IGNITION.

WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY RUBBER GLOVES.

COVER WITH AN ACTIVATED CARBON ADSORBENT, TAKE UP AND PLACE IN CLOSED CONTAINERS. TRANSPORT OUTDOORS.

VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7. - - - - - - - HANDLING AND STORAGE - - - - - - - - - - -

REFER TO SECTION 8.

SECTION 8. - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION - - - - - - -

WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR, CHEMICAL-RESISTANT GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.

USE ONLY IN A CHEMICAL FUME HOOD.

SAFETY SHOWER AND EYE BATH.

USE NONSPARKING TOOLS.

DO NOT BREATHE VAPOR.

AVOID CONTACT WITH EYES, SKIN AND CLOTHING.

WASH THOROUGHLY AFTER HANDLING.

TOXIC.

IRRITANT.

KEEP TIGHTLY CLOSED.

KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAME.

STENCH.

REFRIGERATE.

SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - - - -

APPEARANCE AND ODOR

YELLOW LIQUID

PHYSICAL PROPERTIES

BOILING POINT:

FLASHPOINT

88 C

80 F

26 C

26 F

AUTOIGNITION TEMPERATURE:

545 F

294 C

CONTINUED ON NEXT PAGE
MATERIAL SAFETY DATA SHEET

THIS MSDS IS FOR A COMPONENT OF CATALOG #: 520

CATALOG #: 520-40
NAME: DIACETYL

VAPOR PRESSURE: 52.2MM 20 C
SPECIFIC GRAVITY: 0.981
VAPOR DENSITY: 3

SECTION 10. - - - - - - STABILITY AND REACTIVITY - - - - - -

INCOMPATIBILITIES
OXIDIZING AGENTS
STRONG BASES
REDUCING AGENTS
METALS

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
TOXIC FUMES OF:
CARBON MONOXIDE, CARBON DIOXIDE

SECTION 11. - - - - - - TOXICOLOGICAL INFORMATION - - - - - -

ACUTE EFFECTS
HARMFUL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN.
VAPOR OR MIST IS IRRITATING TO THE EYES, MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT.
CAUSES SKIN IRRITATION.
EXPOSURE CAN CAUSE:
NAUSEA, HEADACHE AND VOMITING

RTECS #: EK2625000
2,3-BUTANEDIONE

IRRITATION DATA
SKN-ABT 500 MG/24H MOD

TOXICITY DATA
ORL-RAT LD50: 1580 MG/KG
IPR-RAT LD50: 400 MG/KG
ORL-MUS LD50: 250 MG/KG
IPR-MUS LD50: 250 MG/KG
SKN-ABT LD50: >5 GM/KG
ORL-GPG LD50: 990 MG/KG
ORL-MAM LD50: 720 MG/KG

TARGET ORGAN DATA
BEHAVIORAL (SOMNOLENCE)
BEHAVIORAL (CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD)
BEHAVIORAL (CHANGE IN MOTOR ACTIVITY)
BEHAVIORAL (ATAXIA)
BEHAVIORAL (COMA)
VASULAR (REGIONAL OR GENERAL ARTERIOlar OR VENOUS DILATION)
LUNGS, THORAX OR RESPIRATION (DYSPIA)

ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES
(RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR
COMPLETE INFORMATION.

CONTINUED ON NEXT PAGE
MATERIAL SAFETY DATA SHEET

THIS MSDS IS FOR A COMPONENT OF CATALOG #: 520

CATALOG #: 520-40
NAME: DIACETYL

SECTION 12. - - - - - - - - ECOLOGICAL INFORMATION - - - - - - - - - - - - - -

DATA NOT YET AVAILABLE.

SECTION 13. - - - - - - - - DISPOSAL CONSIDERATIONS - - - - - - - - - - - - - -

BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER BUT EXERT EXTRA CARE IN IGNITING AS THIS MATERIAL IS HIGHLY FLAMMABLE.

OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. - - - - - - - - TRANSPORT INFORMATION - - - - - - - - - - - - - -

CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. - - - - - - - - REGULATORY INFORMATION - - - - - - - - - - - - - -

EUROPEAN INFORMATION
FLAMMABLE
HARMFUL
R 20/21/22
HARMFUL BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.
R 36/37/38
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
FLAMMABLE
S 16
KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING.
S 26
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.
S 36
WEAR SUITABLE PROTECTIVE CLOTHING.

REVIEWS, STANDARDS, AND REGULATIONS

OEHL=MAK
NOHS 1974: HZD 84595; NIS 3; TNE 126; TNE 1503
NOES 1983: HZD 84595; NIS 3; TNE 185; NIS 13; TNE 3438; TFE 1628
EPA TSCA SECTION 8(b) CHEMICAL INVENTORY
NTP CARCINOGENESIS STUDIES; SELECTED, JULY 1995

SECTION 16. - - - - - - - - OTHER INFORMATION- - - - - - - - - - - - - -

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MATERIAL SAFETY DATA SHEET

THIS MSDS IS FOR A COMPONENT OF CATALOG #: 520

CATALOG #: 520-40
NAME: DIACYTYL

MATERIAL WAS SHIPPED TO THIS ADDRESS:
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WHITewater
CENTRAL RECVG/STORES
500 N FREMONT ST
WHITewater WI 53190