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THE WORLD'S FOREMOST MANUFACTURER OF RESEARCH
BIOCHEMICALS AND DIAGNOSTIC REAGENTS

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 PAGE 1

THIS MSDS IS FOR A COMPONENT OF CATALOG #: 520

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #: 520-40
NAME: DIACETYL

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

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

SYNONYMS

BIACETYL * BUTADIONE * 2,3-BUTADIONE * BUTANEDIONE (DOT) * DIACETYL *
2,3-DIKETOBUTANE * DIMETHYL DIKETONE * DIMETHYLGLYOXAL * GLYOXAL,
DIMETHYL- * UN2346 (DOT) *

SECTION 3. HAZARDS IDENTIFICATION

LABEL PRECAUTIONARY STATEMENTS

FLAMMABLE
TOXIC (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

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Table listing branch offices for SIGMA-ALDRICH in various countries including Germany, Spain, Italy, Austria, Brazil, Mexico, India, and South Korea.

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M A T E R I A L S A F E T Y D A T A S H E E T P A G E 2

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: **88 C**
FLASHPOINT **80 F**
26C
AUTOIGNITION TEMPERATURE: **545 F** **284C**

CONTINUED ON NEXT PAGE

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SIGMA-ALDRICH ERTRIEBS GmbH Lunwelder Weg 30 2041 Daisenhofen Deutschland	SIGMA-ALDRICH QUIMICA, S.A. Apt. Correos 161 28100 Alcobendas (Madrid) España	SIGMA-ALDRICH s.r.o. Krizikova 27 186 00 Praha 8 Ceská Republika	SIGMA CHEMIE K. Cardijnplein, 8 B-2880 Bornem België/Belgique	SIGMA CHEMIE P.O. Box 260 CH-9470 Buchs Switzerland	SIGMA-ALDRICH QUIMICA, S.A. de C.V. Avenida Picacho Ajusco No. 130-303 Fraccionamiento Jardines en la Montaña 14210 Mexico, D.F.	SIGMA-ALDRICH CORPORATION 10315 New Delhi Location B-4/158, Safdarjung Enclave New Delhi - 110 029 India
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MATERIAL SAFETY DATA SHEET PAGE 3

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-RBT 500 MG/24H MOD FCTXAV 17,765,79

TOXICITY DATA
ORL-RAT LD50:1580 MG/KG FCTXAV 2,327,64
IPR-RAT LD50:400 MG/KG FCTXAV 7,571,69
ORL-MUS LD50:250 MG/KG FRZKAP (1) 44,83
IPR-MUS LD50:249 MG/KG RPTOAN 35,293,72
SKN-RBT LD50:>5 GM/KG FCTXAV 17,765,79
ORL-GPG LD50:990 MG/KG FCTXAV 2,327,64
ORL-MAM LD50:720 MG/KG RPTOAN 48,186,85

TARGET ORGAN DATA
BEHAVIORAL (SOMNLENCE)
BEHAVIORAL (CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD)
BEHAVIORAL (CHANGE IN MOTOR ACTIVITY)
BEHAVIORAL (ATAXIA)
BEHAVIORAL (COMA)
VASCULAR (REGIONAL OR GENERAL ARTERIOLAR OR VENOUS DILATION)
LUNGS, THORAX OR RESPIRATION (DYSPPNAE)
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

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MATERIAL SAFETY DATA SHEET PAGE 4

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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

OEL=MAK
NOHS 1974: HZD 84595; NIS 3; TNE 126; NOS 6; TNE 1503
NOHS 1983: HZD 84595; NIS 3; TNE 185; NOS 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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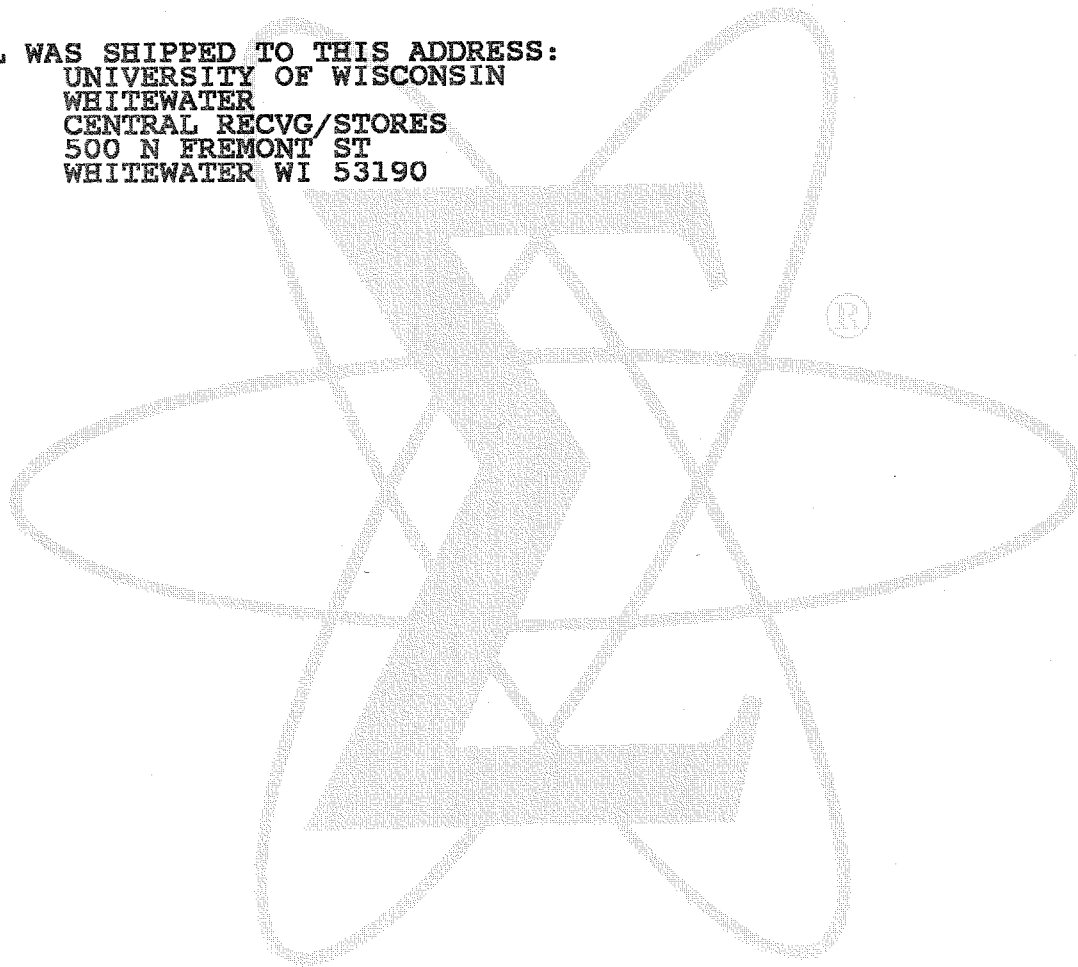
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M A T E R I A L S A F E T Y D A T A S H E E T P A G E 5

THIS MSDS IS FOR A COMPONENT OF CATALOG #: **520**

CATALOG #: **520-40**
NAME: **DIACETYL**

MATERIAL WAS SHIPPED TO THIS ADDRESS:
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