J. T. BAKER CHEMICAL CO. 222 RED SCHOOL LANE, PHILLIPSBURG, NJ 08565

MATERIAL SAFETY DATA SHEET

24-HOUR EMERGENCY TELEPHONE -- (201) 859-2151

CHEMTREC # (800) 424-9300 -- NATIONAL RESPONSE CENTER # (800) 424-8802

SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: DIMETHYLFORMAMIDE
FORMULA: HCON(CH3)2
FORMULA WT: 73.10
CAS NO.: 00068-12-2
NIOSH/RTECS NO.: LQ2100000
COMMON SYNONYMS: N,N-DIMETHYLFORMAMIDE; DMF
PRODUCT CODES: J766,9223,9222,9221

Superfund Records Center
SITE: Wells G+H
BREAK: 11.9
OTHER: 548858

PRECAUTIONARY LABELLING

BAKER SAF-T-DATA(TM) SYSTEM

HEALTH	-	3	(LIFE)
FLAMMABILITY	-	2	
REACTIVITY	-	1	
CONTACT	-	3	(LIFE)

SDMS DocID 548858

LABORATORY PROTECTIVE EQUIPMENT

GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES; CLASS B EXTINGUISHER

PRECAUTIONARY LABEL STATEMENTS

POISON DANGER
EXCEPTIONAL HEALTH AND CONTACT HAZARDS - READ MATERIAL SAFETY DATA SHEET
MAY BE FATAL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN
COMBUSTIBLE

KEEP AWAY FROM HEAT, SPARKS, FLAME. DO NOT GET IN EYES, ON SKIN, ON CLOTHING. DO NOT BREATHE VAPOR. KEEP IN TIGHTLY CLOSED CONTAINER. USE WITH ADEQUATE VENTILATION. WASH THOROUGHLY AFTER HANDLING. IN CASE OF FIRE, USE WATER SPRAY ALCOHOL FOAM, DRY CHEMICAL, OR CARBON DIOXIDE. FLUSH SPILL AREA WITH WATER SPRAY.

SECTION II - HAZARDOUS COMPONENTS

COMPONENT	%	CAS NO.
DIMETHYLFORMAMIDE	90-100	68-12-2
DIMETHYLFORMAMIDE	90-100	68-12-2

SECTION III - PHYSICAL DATA

BOILING POINT: 153 C (307 F) VAPOR PRESSURE(MM HG): 3.7

MELTING POINT: -61 C (-78 F) VAPOR DENSITY(AIR=1): 2.5

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SECTION III - PHYSICAL DATA (CONTINUED)

SPECIFIC GRAVITY: 0.95 (H2O=1)

EVAPORATION RATE: N/A (BUTYL ACETATE=1)

SOLUBILITY(H2O): COMPLETE (IN ALL PROPORTIONS) % VOLATILES BY VOLUME: 100

APPEARANCE & ODOR: WATER-WHITE LIQUID WITH SLIGHT AMMONIA ODOR.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 58 C (136 F) NFPA 704M RATING: 1-2-0

FLAMMABLE LIMITS: UPPER - 15.2 % LOWER - 2.2 %

FIRE EXTINGUISHING MEDIA
USE WATER SPRAY, ALCOHOL FOAM, DRY CHEMICAL OR CARBON DIOXIDE.

SPECIAL FIRE-FIGHTING PROCEDURES
FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN POSITIVE PRESSURE MODE MOVE CONTAINERS FROM FIRE AREA IF IT CAN BE DONE WITHOUT RISK. USE WATER TO KEEP FIRE-EXPOSED CONTAINERS COOL.

UNUSUAL FIRE & EXPLOSION HAZARDS
VAPORS MAY FLOW ALONG SURFACES TO DISTANT IGNITION SOURCES AND FLASH BACK. CLOSED CONTAINERS EXPOSED TO HEAT MAY EXPLODE. CONTACT WITH STRONG OXIDIZERS MAY CAUSE FIRE.

TOXIC GASES PRODUCED
AMMONIA, NITROGEN OXIDES

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV/TWA): 30 MG/M3 (10 PPM)

TOXICITY:
LD50 (ORAL-RAT)(MG/KG) - 2800
LD50 (SKN-RAT) (MG/KG) - 5000
LD50 (IPR-RAT)(MG/KG) - 1400

EFFECTS OF OVEREXPOSURE
VAPORS MAY BE IRRITATING TO SKIN, EYES, AND MUCOUS MEMBRANES.
INHALATION OF VAPORS MAY CAUSE NAUSEA OR VOMITING.
EXPOSURE MAY RESULT IN FETAL DEATH.
SKIN ABSORPTION MAY BE HARMFUL OR FATAL.
INGESTION MAY BE FATAL.
CHRONIC EFFECTS OF INHALATION OVEREXPOSURE MAY CAUSE LIVER DAMAGE.

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SECTION V - HEALTH HAZARD DATA (CONTINUED)

EMERGENCY AND FIRST AID PROCEDURES

CALL A PHYSICIAN.
IF SWALLOWED, IF CONSCIOUS, IMMEDIATELY INDUCE VOMITING.
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH PLENTY OF WATER FO AT LEAST 15 MINUTES.

SECTION VI - REACTIVITY DATA

STABILITY: STABLE HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: HEAT, FLAME, OTHER SOURCES OF IGNITION

INCOMPATIBLES: STRONG OXIDIZING AGENTS, HALOGENATED HYDROCARBONS, ACTIVE HALOGEN COMPOUNDS

DECOMPOSITION PRODUCTS: AMINES

SECTION VII - SPILL AND DISPOSAL PROCEDURES

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

WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. SHUT OFF IGNITION SOURCES; NO FLARES, SMOKING OR FLAMES IN AREA. STOP LEA IF YOU CAN DO SO WITHOUT RISK. USE WATER SPRAY TO REDUCE VAPORS. TAKE UP WITH SAND OR OTHER NON-COMBUSTIBLE ABSORBENT MATERIAL AND PLACE INTO CONTAINER FOR LATER DISPOSAL. FLUSH AREA WITH WATER.

J. T. BAKER SOLUSORB(R) SOLVENT ADSORBENT IS RECOMMENDED FOR SPILLS OF THIS PRODUCT.

DISPOSAL PROCEDURE

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

EPA HAZARDOUS WASTE NUMBER: D001 (IGNITABLE WASTE)

SECTION VIII - PROTECTIVE EQUIPMENT

VENTILATION: USE GENERAL OR LOCAL EXHAUST VENTILATION TO MEET TLV REQUIREMENTS.

RESPIRATORY PROTECTION: RESPIRATORY PROTECTION REQUIRED IF AIRBORNE CONCENTRATION EXCEEDS TLV. AT CONCENTRATIONS ABOVE 10 PPM, A SELF-CONTAINED BREATHING APPARATUS IS ADVISED.

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SECTION VIII - PROTECTIVE EQUIPMENT (CONTINUED)

EYE/SKIN PROTECTION: SAFETY GOGGLES AND FACE SHIELD, UNIFORM, PROTECTIVE SUIT, RUBBER GLOVES ARE RECOMMENDED.

SECTION IX - STORAGE AND HANDLING PRECAUTIONS

SAF-T-DATA(TM) STORAGE COLOR CODE: RED

SPECIAL PRECAUTIONS
KEEP CONTAINER TIGHTLY CLOSED. STORE IN A COOL, DRY, WELL-VENTILATED, FLAMMABLE LIQUID STORAGE AREA OR CABINET.

SECTION X - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

DOMESTIC (D.O.T.)

PROPER SHIPPING NAME	COMBUSTIBLE LIQUID, N.O.S. (DIMETHYLFORMAMIDE)
HAZARD CLASS	COMBUSTIBLE LIQUID
UN/NA	NA1993
LABELS	NO LABEL REQUIRED UNDER 110 GALLONS

INTERNATIONAL (I.M.O.)

PROPER SHIPPING NAME	N,N-DIMETHYLFORMAMIDE
HAZARD CLASS	3.3
UN/NA	UN2265
LABELS	FLAMMABLE LIQUID

(TM) AND (R) DESIGNATE TRADEMARKS.
N/A = NOT APPLICABLE OR NOT AVAILABLE

THE INFORMATION PUBLISHED IN THIS MATERIAL SAFETY DATA SHEET HAS BEEN COMPILED FROM OUR EXPERIENCE AND DATA PRESENTED IN VARIOUS TECHNICAL PUBLICATIONS. IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE SUITABILITY OF THIS INFORMATION FOR THE ADOPTION OF NECESSARY SAFETY PRECAUTIONS. WE RESERVE THE RIGHT TO REVISE MATERIAL SAFETY DATA SHEETS PERIODICALLY AS NEW INFORMATION BECOMES AVAILABLE.

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