

J.T.BAKER INC. 222 RED SCHOOL LANE, PHILLIPSBURG, NJ 08865

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

24-HOUR EMERGENCY TELEPHONE -- (908) 859-2151

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

D7464 -04

2,4-DINITROPHENYLHYDRAZINE

PAGE: 1

EFFECTIVE: 01/04/94

ISSUED: 01/15/94

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SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: 2,4-DINITROPHENYLHYDRAZINE

COMMON SYNONYMS: N/A

CHEMICAL FAMILY: HYDRAZINES

FORMULA: (NO2)2C6H3NHNH2

FORMULA WT.: 198.14

CAS NO.: 119-26-6

NIOSH/RTECS NO.: MV3325000

PRODUCT USE: LABORATORY REAGENT

PRODUCT CODES: K408

PRECAUTIONARY LABELING

BAKER SAF-T-DATA\* SYSTEM

HEALTH	-	1	SLIGHT
FLAMMABILITY	-	1	SLIGHT
REACTIVITY	-	2	MODERATE
CONTACT	-	2	MODERATE

LABORATORY PROTECTIVE EQUIPMENT

GOGGLES; LAB COAT

U.S. PRECAUTIONARY LABELING

WARNING

CAUSES IRRITATION. KEEP WET. EXPLOSIVE IF DRY. MAY BE HARMFUL IF SWALLOWED. KEEP AWAY FROM HEAT, SPARKS, FLAME. DO NOT GET IN EYES, ON SKIN, ON CLOTHING. KEEP IN TIGHTLY CLOSED CONTAINER. KEEP WET. WASH THOROUGHLY AFTER HANDLING. THIS MATERIAL CONTAINS AT LEAST 10% WATER. IF WATER EVAPORATES BELOW 10%, 2,4-DINITROPHENYLHYDRAZINE BECOMES AN EXPLOSIVE. USE NON-SPARKING TOOLS. IN CASE OF FIRE, SOAK WITH WATER. IN CASE OF SPILL, MOISTEN MATERIAL WITH WATER AND CAREFULLY SWEEP UP AND REMOVE.

INTERNATIONAL LABELING

EXPLOSIVE WHEN DRY. TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.

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PRECAUTIONARY LABELING (CONTINUED)

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IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE (SHOW THE LABEL WHERE POSSIBLE).

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

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SECTION II - COMPONENTS

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<u>COMPONENT</u>	<u>CAS NO.</u>	<u>WEIGHT %</u>	<u>OSHA/PEL</u>	<u>ACGIH/TLV</u>
2,4-DINITROPHENYLHYDRAZINE	119-26-6	85-90	N/E	N/E
WATER	7732-18-5	10-15	N/E	N/E

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SECTION III - PHYSICAL DATA

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BOILING POINT: N/A

VAPOR PRESSURE (MMHG): N/A

MELTING POINT: 194 C (381 F)  
(AT 760 MM HG)

VAPOR DENSITY (AIR=1): N/A

SPECIFIC GRAVITY: N/A  
(H2O=1)

EVAPORATION RATE: N/A

SOLUBILITY (H2O): SLIGHT (0.1-1%)

% 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: RED CRYSTALLINE POWDER.

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SECTION IV - FIRE AND EXPLOSION HAZARD DATA

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FLASH POINT (CLOSED CUP): 209 C (410 F)

AUTOIGNITION TEMPERATURE: N/A

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SECTION IV - FIRE AND EXPLOSION HAZARD DATA (CONTINUED)

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FLAMMABLE LIMITS:    UPPER - N/A                      LOWER - N/A

FIRE EXTINGUISHING MEDIA  
USE WATER SPRAY.

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. FLUSH AREA WITH WATER UNTIL COOL SO REIGNITION WILL NOT OCCUR.

UNUSUAL FIRE & EXPLOSION HAZARDS

CAN REACT VIOLENTLY WITH SHOCK, FRICTION OR HEAT. DRY MATERIAL IS AN EXPLOSIVE.

TOXIC GASES PRODUCED

OXIDES OF NITROGEN, CARBON MONOXIDE, CARBON DIOXIDE

EXPLOSION DATA-SENSITIVITY TO MECHANICAL IMPACT

NONE IDENTIFIED.

EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE

NONE IDENTIFIED.

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SECTION V - HEALTH HAZARD DATA

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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 2,4-DINITROPHENYLHYDRAZINE

654 MG/KG

INTRAPERITONEAL MOUSE LD50 FOR WATER

190 G/KG

INTRAVENOUS MOUSE LD50 FOR WATER

25 G/KG

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

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SECTION V - HEALTH HAZARD DATA (CONTINUED)

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CARCINOGENICITY

NONE IDENTIFIED.

REPRODUCTIVE EFFECTS

NONE IDENTIFIED.

EFFECTS OF OVEREXPOSUR

INHALATION: NONE IDENTIFIED

SKIN CONTACT: PROLONGED CONTACT MAY CAUSE SKIN SENSITIZATION

EYE CONTACT: IRRITATION

SKIN ABSORPTION: NONE IDENTIFIED

INGESTION: MAY BE HARMFUL

CHRONIC EFFECTS: BLOOD DAMAGE

TARGET ORGANS

EYES, BLOOD

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

NONE IDENTIFIED

PRIMARY ROUTES OF ENTRY

SKIN CONTACT, EYE CONTACT, INGESTION

EMERGENCY AND FIRST AID PROCEDURES

INGESTION: CALL A PHYSICIAN. IF SWALLOWED, IF CONSCIOUS, IMMEDIATELY INDUCE VOMITING.

INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.

SKIN CONTACT: IN CASE OF CONTACT, FLUSH SKIN WITH WATER.

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

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SECTION V - HEALTH HAZARD DATA (CONTINUED)

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SARA/TITLE III HAZARD CATEGORIES AND LISTS

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

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

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SECTION VI - REACTIVITY DATA

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STABILITY: UNSTABLE HAZARDOUS POLYMERIZATION: WILL NOT OCCUR  
CONDITIONS TO AVOID: HEAT, FLAME, OTHER SOURCES OF IGNITION, SHOCK, DRYNESS  
INCOMPATIBLES: STRONG OXIDIZING AGENTS  
DECOMPOSITION PRODUCTS: OXIDES OF NITROGEN, CARBON MONOXIDE, CARBON DIOXIDE

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SECTION VII - SPILL & DISPOSAL PROCEDURES

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

WEAR SUITABLE PROTECTIVE CLOTHING. SHUT OFF IGNITION SOURCES; NO FLARES,  
SMOKING, OR FLAMES IN AREA.  
MOISTEN MATERIAL WITH WATER AND PLACE IT INTO LOOSELY-COVERED PLASTIC OR  
FIBERBOARD CONTAINERS FOR LATER DISPOSAL.

DISPOSAL PROCEDURE

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

EPA HAZARDOUS WASTE NUMBER: D001, D003 (IGNITABLE, REACTIVE WASTE)

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SECTION VIII - INDUSTRIAL PROTECTIVE EQUIPMENT

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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.

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

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SECTION IX - STORAGE AND HANDLING PRECAUTIONS

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

STORAGE REQUIREMENTS

KEEP CONTAINER TIGHTLY CLOSED. STORE IN COOL, DRY, WELL-VENTILATED AREA  
AWAY FROM HEAT, SPARKS, OR FLAME.

SPECIAL PRECAUTIONS

THIS PRODUCT CONTAINS AT LEAST 10% WATER - IF THE WATER CONTENT DECREASES  
BELOW THIS LEVEL, IT BECOMES AN EXPLOSIVE. AVOID CONDITIONS THAT COULD  
LEAD TO LOSS OF WATER. DINITROPHENYLHYDRAZINE MAY BE SHIPPED DRY AS DRUGS,  
N.O.S. OR MEDICINE, N.O.S. WITHOUT ANY OTHER REQUIREMENTS BY RAIL OR  
HIGHWAY IF THE AMOUNT IN ONE OUTSIDE PACKAGE DOES NOT EXCEED 4 OUNCES, AND  
MATERIAL IS PACKAGED IN SECURELY CLOSED BOTTLES THAT ARE CUSHIONED TO  
PREVENT BREAKAGE. THIS BAKER MATERIAL IS WETTED AND SHOULD NOT BE ALLOWED  
TO DRY. DINITROPHENYLHYDRAZINE IS EXPLOSIVE WHEN DRY. SEE 49CFR  
173.65(D)(4).

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SECTION X - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

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DOMESTIC (D.O.T.)

PROPER SHIPPING NAME: SUBSTANCES, EXPLOSIVE, N.O.S.  
HAZARD CLASS: 1.1L  
UN/NA: UN0357  
LABELS: EXPLOSIVE 1.1L  
REGULATORY REFERENCES: 49CFR 172.101; 173.154

PACKAGING GROUP: II

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SECTION X - TRANSPORTATION DATA AND ADDITIONAL INFORMATION (CONTINUED)

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INTERNATIONAL (I.M.O.)

PROPER SHIPPING NAME: SUBSTANCES, EXPLOSIVE, N.O.S.

HAZARD CLASS: 1.1L

I.M.O. PAGE: 1139

UN: UN0357 MARINE POLLUTANTS: NO

PACKAGING GROUP: II

LABELS: EXPLOSIVE 1.1L

REGULATORY REFERENCES: 49CFR PART 176; IMDG CODE

AIR (I.C.A.O.)

PROPER SHIPPING NAME: SUBSTANCES, EXPLOSIVE, N.O.S.

HAZARD CLASS: 1.1L

PACKAGING GROUP: II

UN: UN0357

LABELS: EXPLOSIVE 1.1L

REGULATORY REFERENCES: 49CFR PART 175; ICAO=== WE BELIEVE THE TRANSPORTATION DATA AND REFERENCES CONTAINED HEREIN TO BE FACTUAL AND THE OPINION OF QUALIFIED EXPERTS. THE DATA IS MEANT AS A GUIDE TO THE OVERALL CLASSIFICATION OF THE PRODUCT AND IS NOT PACKAGE SIZE SPECIFIC, NOR SHOULD IT BE TAKEN AS A WARRANTY OR REPRESENTATION FOR WHICH THE COMPANY ASSUMES LEGAL RESPONSIBILITY.=== THE INFORMATION IS OFFERED SOLELY FOR YOUR CONSIDERATION, INVESTIGATION, AND VERIFICATION. ANY USE OF THE INFORMATION MUST BE DETERMINED BY THE USER TO BE IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS. SEE SHIPPER REQUIREMENTS 49CFR 171.2, CERTIFICATION 172.204, AND EMPLOYEE TRAINING 49 CFR 173.1(B).

U.S. CUSTOMS HARMONIZATION NUMBER: 29280020001

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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

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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 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) FOR ASSISTANCE.

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APPROVED BY QUALITY ASSURANCE DEPARTMENT.