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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

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

CATALOG #: D7004  
NAME: 2,4-DINITROPHENOL

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

CAS #: 51-28-5  
MF: C6H4N2O5  
EC NO: 200-087-7

SYNONYMS

ALDIFEN \* CHEMOX PE \* 2,4-DINITROFENOL (DUTCH) \* DINITROFENOLO  
(ITALIAN) \* ALPHA-DINITROPHENOL \* 2,4-DINITROPHENOL \* DINOXAN \* 2,4-  
DNP \* FENOXYL CARBON N \* 1-HYDROXY-2,4-DINITROBENZENE \* MAROXOL-50 \*  
NITRO KLEENUP \* NSC 1532 \* PHENOL, ALPHA-DINITRO- \* RCRA WASTE NUMBER  
P048 \* SOLFO BLACK B \* SOLFO BLACK BB \* SOLFO BLACK 2B SUPRA \* SOLFO  
BLACK G \* SOLFO BLACK SB \* TERTROSULPHUR BLACK PB \* TERTROSULPHUR PBR  
\*

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

LABEL PRECAUTIONARY STATEMENTS

FLAMMABLE (USA)  
HIGHLY FLAMMABLE (EU)  
HIGHLY TOXIC (USA)  
TOXIC (EU)  
TOXIC IF SWALLOWED.  
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.  
TARGET ORGAN(S):  
LIVER  
CENTRAL NERVOUS SYSTEM  
READILY ABSORBED THROUGH SKIN.  
FLAMMABLE SOLID.  
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, GLOVES AND EYE/FACE  
PROTECTION.  
KEEP CONTAINER TIGHTLY CLOSED IN A COOL WELL-VENTILATED PLACE.  
LIGHT SENSITIVE  
HEAT-SENSITIVE.

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

IN CASE OF CONTACT WITH EYES, FLUSH WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. ASSURE ADEQUATE FLUSHING BY SEPARATING THE EYELIDS WITH FINGERS. CALL A PHYSICIAN.

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

EXTINGUISHING MEDIA

WATER SPRAY.

CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.

SPECIAL FIREFIGHTING PROCEDURES

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

UNUSUAL FIRE AND EXPLOSIONS HAZARDS

MAY EXPLODE WHEN HEATED.

FLAMMABLE SOLID.

EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

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

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

SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.

AVOID RAISING DUST.

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

EVACUATE AREA.

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

REFER TO SECTION 8.

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

SAFETY SHOWER AND EYE BATH.

USE ONLY IN A CHEMICAL FUME HOOD.

WASH CONTAMINATED CLOTHING BEFORE REUSE.

WASH THOROUGHLY AFTER HANDLING.

DO NOT BREATHE DUST.

DO NOT GET IN EYES, ON SKIN, ON CLOTHING.

AVOID PROLONGED OR REPEATED EXPOSURE.

NIOSH/MSHA-APPROVED RESPIRATOR.

COMPATIBLE CHEMICAL-RESISTANT GLOVES.

CHEMICAL SAFETY GOGGLES.

KEEP TIGHTLY CLOSED.

STORE IN A COOL DRY PLACE.

IRRITANT.

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

PHYSICAL PROPERTIES

MELTING POINT: 111 C

VAPOR PRESSURE: < 0.001 MMHG @ 20 C

SOLUBILITY:

WATER -225186

ACETONE, CHLORO

PYRIDINE, ETHYL

SPECIFIC GRAVITY: 1.683

VAPOR DENSITY: 6.35 G/L

PH: 2.6 - 4.4

SWISS POISON CLASS: 2

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

STABILITY

STABLE.

CONDITIONS TO AVOID

LIGHT SENSITIVE

HEAT-SENSITIVE.

INCOMPATIBILITIES

STRONG OXIDIZING AGENTS

STRONG BASES

ACID CHLORIDES

ACID ANHYDRIDES

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS  
 CARBON MONOXIDE, CARBON DIOXIDE  
 NITROGEN OXIDES  
 HAZARDOUS POLYMERIZATION  
 WILL NOT OCCUR.

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

## ACUTE EFFECTS

MAY CAUSE SKIN IRRITATION.  
 MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.  
 MAY CAUSE EYE IRRITATION.  
 MATERIAL MAY BE IRRITATING TO MUCOUS MEMBRANES AND UPPER  
 RESPIRATORY TRACT.  
 MAY BE HARMFUL IF INHALED.  
 MAY BE FATAL IF SWALLOWED.  
 DISRUPTS OXIDATIVE PHOSPHORYLATION WHICH RESULTS IN INCREASED  
 METABOLISM, CONSUMPTION OF OXYGEN AND PRODUCTION OF HEAT.  
 EXPOSURE IS CHARACTERIZED BY SUDDEN ONSET OF FATIGUE, THIRST,  
 AND SWEATING.  
 SYMPTOMS INCLUDE NAUSEA, VOMITING, ANOREXIA, WEAKNESS, DIZZINESS,  
 VERTIGO, HEADACHE AND SWEATING.  
 DAMAGE TO THE LIVER  
 DERMATITIS  
 TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND  
 TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

## CHRONIC EFFECTS

TARGET ORGAN(S):

LIVER  
 CENTRAL NERVOUS SYSTEM  
 EYES  
 KIDNEYS  
 BLOOD  
 LUNGS

RTECS #: SL2800000

PHENOL, 2,4-DINITRO-

## IRRITATION DATA

SKN-RBT 300 MG/4W-I MLD

JIHTAB 30,10,1948

## TOXICITY DATA

ORL-HMN LDLO:36 MG/KG	JAMAAP 101,1333,1933
ORL-RAT LD50:30 MG/KG	TXAPA9 21,315,1972
IPR-RAT LD50:20 MG/KG	JPPMAB 17,814,1965
SCU-RAT LD50:25 MG/KG	JPETAB 49,187,1933
IVN-RAT LD50:72 MG/KG	TXAPA9 6,232,1964
ORL-MUS LD50:45 MG/KG	FATOAO 28,493,1965
IPR-MUS LD50:26 MG/KG	BCPCA6 18,1389,1969
SCU-MUS LD50:58 MG/KG	TXAPA9 6,232,1964
IVN-MUS LD50:56 MG/KG	TXAPA9 6,232,1964
ORL-CAT LD50:75 MG/KG	85GMAT -,62,1982
ORL-RBT LD50:30 MG/KG	FATOAO 28,493,1965
ORL-GPG LD50:81 MG/KG	FATOAO 28,493,1965
IPR-GPG LD50:28 MG/KG	ARZNAD 8,381,1958
IMS-PGN LD50:6500 UG/KG	JPETAB 53,58,1935
UNR-MAM LD50:40 MG/KG	30ZDA9 -,97,1971
ORL-BWD LD50:13 MG/KG	TXAPA9 21,315,1972

## TARGET ORGAN DATA

BEHAVIORAL (ALTERED SLEEP TIME)  
 BEHAVIORAL (CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD)  
 BEHAVIORAL (CHANGE IN MOTOR ACTIVITY)  
 BEHAVIORAL (ATAXIA)  
 BEHAVIORAL (TETANY)  
 BEHAVIORAL (COMA)

CARDIAC (CHANGE IN RATE)  
LUNGS, THORAX OR RESPIRATION (RESPIRATORY STIMULATION)  
EFFECTS ON EMBRYO OR FETUS (FETOTOXICITY)  
NUTRITIONAL AND GROSS METABOLIC (BODY TEMPERATURE INCREASE)  
ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES  
(RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR  
COMPLETE INFORMATION.

SECTION 12. - - - - - ECOLOGICAL INFORMATION - - - - -  
DATA NOT YET AVAILABLE.

SECTION 13. - - - - - DISPOSAL CONSIDERATIONS - - - - -  
CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF  
THIS MATERIAL.  
DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A  
CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.  
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

EC INDEX NO: 609-041-00-4  
HIGHLY FLAMMABLE  
TOXIC  
R 23/24/25  
TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.  
R 33  
DANGER OF CUMULATIVE EFFECTS.  
R 50  
VERY TOXIC TO AQUATIC ORGANISMS.  
S 28  
AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH PLENTY OF WATER.  
S 37  
WEAR SUITABLE GLOVES.  
S 45  
IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE  
IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).  
S 61  
AVOID RELEASE TO THE ENVIRONMENT. REFER TO SPECIAL INSTRUCTIONS/  
SAFETY DATA SHEETS.

REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK  
EPA FIFRA 1988 PESTICIDE SUBJECT TO REGISTRATION OR RE-REGISTRATION  
FEREAC 54,7740,1989  
NOHS 1974: HZD 27110; NIS 1; TNF 19; NOS 1; TNE 38  
NOES 1983: HZD 27110; NIS 1; TNF 7; NOS 3; TNE 130; TFE 14  
EPA TSCA SECTION 8(B) CHEMICAL INVENTORY  
EPA TSCA SECTION 8(D) UNPUBLISHED HEALTH/SAFETY STUDIES  
ON EPA IRIS DATABASE  
EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, JANUARY 2001

U.S. INFORMATION

THIS PRODUCT IS SUBJECT TO SARA SECTION 313 REPORTING REQUIREMENTS.

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

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO  
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