Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	**Flammable material; avoid heat and sources of ignition.** **Dried material may explode by heat, shock or friction.** **Water is added to reduce risk.** **Toxic compound, do not ingest or inhale. Avoid all contact with this material.** **Corrosive to eyes and skin on contact.** **Readily absorbed through skin.** **Environmental hazard.** **Heat and light sensitive.**	

Section I. Chemical Product and Company Identification

Chemical Name: **2,6-Dinitrophenol**
(wetted with ca. 20% water)

Catalog Number: D0842

Synonym: o-Dinitrophenol

Chemical Formula: $(NO_2)_2C_6H_3OH$

CAS Number: 573-56-8

Supplier:
TCI America
9211 N. Harborgate St.
Portland OR
1-800-423-8616

In case of Emergency Call:
Chemtrec®
(800) 424-9300 (U.S.)
(703) 527-3887
(International)

Section II. Composition and Information on Ingredients

Chemical Name	CAS Number	Percent (%)	TLV/PEL	Toxicology Data
2,6-Dinitrophenol (wetted with ca. 20% water)	573-56-8	Min. 95.0 (T)	Not available.	Rat LD_{50} (intraperitoneal) 38mg/kg Mouse LD_{50} (intraperitoneal) 45mg/kg

Section III. Hazards Identification

Acute Health Effects

Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death.
Corrosive to skin, eyes, and respiratory system. Liquid or spray mist may produce tissue damage, particularly in mucous membranes of the eyes, mouth and respiratory tract. Skin contact may produce burns. Eye contact can result in corneal damage or blindness. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Corrosive materials may cause serious injury if ingested.
Readily absorbed through skin.
Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

Chronic Health Effects

CARCINOGENIC EFFECTS : Not available.
MUTAGENIC EFFECTS : Not available.
TERATOGENIC EFFECTS : Not available.
DEVELOPMENTAL TOXICITY : Not available.
Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage. Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section IV. First Aid Measures

Eye Contact

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Skin Contact

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Inhalation

If the victim is not breathing, perform mouth-to-mouth resuscitation. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, oxygen can be administered. Seek medical attention if respiration problems do not improve.

Ingestion

DO NOT INDUCE VOMITING. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive.

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12/13/2006.

Section V. Fire and Explosion Data

Flammability	Flammable.	Auto-Ignition	Not available.
Flash Points	Not available.	Flammable Limits	Not available.
Combustion Products	These products are toxic carbon oxides (CO, CO_2), nitrogen oxides (NO, NO_2).		
Fire Hazards	Not available.		
Explosion Hazards	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.		
Fire Fighting Media and Instructions	Flammable solid. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion. Consult with local fire authorities before attempting large scale fire-fighting operations.		

Section VI. Accidental Release Measures

Spill Cleanup Instructions	Flammable solid. May explode when heated. Toxic material. Corrosive material. Readily absorbed through skin. Environmentally hazardous material. Heat and light sensitive material. Stop leak if without risk. DO NOT get water inside container. DO NOT touch spilled material. Use water spray curtain to divert vapor drift. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all sources of ignition. Consult federal, state, and/or local authorities for assistance on disposal.

Section VII. Handling and Storage

Handling and Storage Information	FLAMMABLE. MAY EXPLODE WHEN HEATED. TOXIC. CORROSIVE. READILY ABSORBED THROUGH SKIN. ENVIRONMENTAL HAZARD. HEAT AND LIGHT SENSITIVE. Keep locked up. Keep container dry. Keep away from heat. Mechanical exhaust required. Avoid excessive heat and light. DO NOT ingest. Do not breathe dust. Never add water to this product. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Treat symptomatically and supportively. Always store away from incompatible compounds such as oxidizing agents, alkalis (bases).

Section VIII. Exposure Controls/Personal Protection

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Personal Protection	Face shield. Lab coat. Dust respirator. Boots. Gloves. A MSHA/NIOSH approved respirator must be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. 
Exposure Limits	Not available.

Section IX. Physical and Chemical Properties

Physical state @ 20°C	Solid. (Crystalline powder, yellow.)	Solubility	Slightly soluble in cold water or cold alcohol. Freely soluble in chloroform, ether, boiling alcohol, fixed alkali hydroxide soln. Soluble in acetone, ethanol and ether.
Specific Gravity	Not available.		
Molecular Weight	184.11	Partition Coefficient	Not available.
Boiling Point	Not available.	Vapor Pressure	Not applicable.
Melting Point	63 to 64°C (145.4 to 147.2°F)	Vapor Density	6.35 (Air = 1)
Refractive Index	Not available.	Volatility	Not available.
Critical Temperature	Not available.	Odor	Musty.
Viscosity	Not available.	Taste	Not available.

Section X. Stability and Reactivity Data

Stability	This material is stable if stored under proper conditions. (See Section VII for instructions)
Conditions of Instability	Heat and light sensitive. Avoid excessive heat and light.
Incompatibilities	Reactive with strong oxidizing agents, strong alkalis (bases), acid chlorides, acid anhydrides.

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Section XI. Toxicological Information

RTECS Number

SL2975000

Routes of Exposure

Eye Contact. Ingestion. Inhalation. Skin contact.

Toxicity Data

Rat LD_{50} (intraperitoneal) 38mg/kg
Mouse LD_{50} (intraperitoneal) 45mg/kg

Chronic Toxic Effects

CARCINOGENIC EFFECTS : Not available.
MUTAGENIC EFFECTS : Not available.
TERATOGENIC EFFECTS : Not available.
DEVELOPMENTAL TOXICITY : Not available.
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Readily absorbed through skin.
Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

Section XII. Ecological Information

Ecotoxicity

Not available.

Environmental Fate

2,6-Dinitrophenol's production and use in the manufacture of dyes and its use as an indicator may result in its release to the environment through various waste streams. If released to air, an estimated vapor pressure of 1.2X10-5 mm Hg at 25 deg C indicates 2,6-dinitrophenol will exist in both the vapor and particulate phases in the ambient atmosphere. Vapor-phase 2,6-dinitrophenol will be degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 24 days. Particulate-phase 2,6-dinitrophenol may be removed from the air by wet and dry deposition. 2,6-Dinitrophenol absorbs light at wavelengths greater than 290 nm, suggesting that photodegradation may be an important fate process although the kinetics of this reaction are unknown. If released to soil, 2,6-dinitrophenol is expected to have high mobility based upon an estimated Koc value of 130. The pKa of 2,6-dinitrophenol is 3.69, which indicates that this compound will exist primarily as an anion on moist soil surfaces and anions are expected to have very high mobility in moist soils. Volatilization of 2,6-dinitrophenol from moist soil surfaces is not expected to be an important fate process since the anion will not volatilize and the neutral species has an estimated Henry's Law constant of 2.8X10-8 atm-cu m/mole at 25 deg C. 2,6-Dinitrophenol is not expected to volatilize from dry soil surfaces based upon its vapor pressure. Mixed cultures of phenol adapted bacteria exhibited little or no oxygen uptake in the presence of 2,6-dinitrophenol, suggesting that 2,6-dinitrophenol is resistant to aerobic biodegradation. If released into water, 2,6-dinitrophenol is not expected to adsorb to suspended solids and sediment in the water column based upon the Koc value. Volatilization of 2,6-dinitrophenol from water surfaces is not expected to be an important fate process based upon the estimated Henry's Law constant and since this compound should exist primarily as an anion in water based upon the pKa. An estimated BCF value of 6 suggests the potential for bioconcentration in aquatic organisms is low. Occupational exposure to 2,6-dinitrophenol may occur through inhalation and dermal contact with this compound at workplaces where 2,6-dinitrophenol is produced or used. (HSDB)

Section XIII. Disposal Considerations

Waste Disposal

Recycle to process, if possible. Consult your local regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance.

Section XIV. Transport Information

DOT Classification

CLASS 4.1: Flammable solid.
CLASS 6.1: Toxic material.

PIN Number

UN1320

Proper Shipping Name

Dinitrophenol, wetted

Packing Group (PG)

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DOT Pictograms

Continued on Next Page ***Emergency phone number (800) 424-9300***

Section XV. Other Regulatory Information and Pictograms

TSCA Chemical Inventory (EPA)	This product is **NOT** on the EPA Toxic Substances Control Act (TSCA) inventory. The following notices are required by 40 CFR 720.36 (C) for those products not on the inventory list: (i) These products are supplied solely for use in research and development by or under the supervision of a technically qualified individual as defined in 40 CFR 720.0 et sec. (ii) The health risks of these products have not been fully determined. Any information that is or becomes available will be supplied on an MSDS sheet.
WHMIS Classification (Canada)	CLASS B-4: Flammable solid. CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC). CLASS E: Corrosive solid.
EINECS Number (EEC)	209-357-9
EEC Risk Statements	R5- Heating may cause an explosion. R11- Highly flammable. R23/24/25- Toxic by inhalation, in contact with skin and if swallowed. 33- Danger of cumulative effects. R34- Causes burns. R51- Toxic to aquatic organisms. R53- May cause long-term adverse effects in the aquatic environment.
Japanese Regulatory Data	Not available.

Section XVI. Other Information

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Notice to Reader

TCI laboratory chemicals are for research purposes only and are NOT intended for use as drugs, food additives, households, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our MSDS sheets are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated MSDS sheets for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, facial mask, fume hood). For proper handling and disposal, always comply with federal, state, and local regulations.