

Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
 	Toxic compound, do not ingest or inhale. Avoid all contact with this material. Irritating to skin, eyes, and the respiratory system. Light sensitive.	   

Section I. Chemical Product and Company Identification

Chemical Name	1-Naphthol (alpha-)		
Catalog Number	N0026	Supplier	TCl America 9211 N. Harborgate St. Portland OR 1-800-423-8616
Synonym	Naphthalenol		
Chemical Formula	C ₁₀ H ₇ OH		
CAS Number	90-15-3	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
1-Naphthol (alpha-)	90-15-3	-----	Not available.	Rat LD ₅₀ (oral) 1870mg/kg Rabbit LD ₅₀ (dermal) 880mg/kg Rat LD ₅₀ (inhalation) >420mg/m ³ /1H

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. Irritating to eyes and skin on contact. Inhalation causes irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. 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 Reproductive: mouse (subcutaneous) 90mg/kg. duration: female 6-14 days of pregnancy. Effects on fertility- Litter size. Effects on embryo or fetus- Fetotoxicity. 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. DO NOT use an eye ointment. Flush eyes with running water for a minimum of 15 minutes, occasionally lifting the upper and lower eyelids. Seek medical attention. Treat symptomatically and supportively.
Skin Contact	After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cover the irritated skin with an emollient. Seek medical attention. Treat symptomatically and supportively. Wash any contaminated clothing before reusing.
Inhalation	Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform artificial respiration. WARNING: It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention and, if possible, show the chemical label. Treat symptomatically and supportively.
Ingestion	INDUCE VOMITING by sticking finger in throat. Lower the head so that the vomit will not reenter the mouth and throat. Loosen tight clothing such as a collar, tie, belt, or waistband. If the victim is not breathing, administer artificial respiration. 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. Seek immediate medical attention and, if possible, show the chemical label. Treat symptomatically and supportively.

Section V. Fire and Explosion Data			
Flammability	Combustible.	Auto-Ignition	541°C (1005.8°F)
Flash Points	Not available.	Flammable Limits	Not available.
Combustion Products	These products are toxic carbon oxides (CO, CO ₂).		
Fire Hazards	No specific information is available regarding the flammability of this compound in the presence of various materials.		
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. No additional information is available regarding the risks of explosion.		
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemicals, CO ₂ , water spray or foam. LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet.		

Section VI. Accidental Release Measures	
Spill Cleanup Instructions	Toxic solid. Irritating material. Light sensitive material. Stop leak if without risk. DO NOT get water inside container. DO NOT touch spilled material. 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	TOXIC. IRRITANT. LIGHT SENSITIVE. Handle with caution and minimize exposure. Keep away from heat and sources of ignition. Mechanical exhaust required. When not in use, tightly seal the container and store in a dry, cool place. Avoid excessive heat and light. DO NOT ingest. DO NOT breathe dust. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Treat symptomatically and supportively. Avoid contact with skin and eyes. 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	Splash goggles. 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	Crystalline powder.	Solubility	Very soluble in ethanol and ether. Soluble in acetone. Freely soluble in benzene, chloroform, and alkali hydroxide solutions. Very slightly soluble in water.
Specific Gravity	1.09		
Molecular Weight	144.17	Partition Coefficient	Not available.
Boiling Point	278 to 280°C (532.4 to 536°F)	Vapor Pressure	1 mm Hg @ 120°C
Melting Point	95 to 96°C (203 to 204.8°F)	Vapor Density	4.5
Refractive Index	1.6224 @ 99°C/D	Volatility	Not available.
Critical Temperature	Not available.	Odor	Phenolic odor.
Viscosity	Not available.	Taste	Disagreeable burning taste.

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

Section XI. Toxicological Information

RTECS Number	QL2800000
Routes of Exposure	Eye contact. Inhalation. Ingestion. Skin contact.
Toxicity Data	Rat LD ₅₀ (oral) 1870mg/kg Rabbit LD ₅₀ (dermal) 880mg/kg Rat LD ₅₀ (inhalation) >420mg/m ³ /1H
Chronic Toxic Effects	CARCINOGENIC EFFECTS : Not available. MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : Not available. DEVELOPMENTAL TOXICITY Reproductive: mouse (subcutaneous) 90mg/kg. duration: female 6-14 days of pregnancy. Effects on fertility- Litter size. Effects on embryo or fetus- Fetotoxicity. Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.
Acute Toxic Effects	Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death. Irritating to eyes and skin on contact. Inhalation causes irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

Section XII. Ecological Information

Ecotoxicity	Not available.
Environmental Fate	1-Naphthol may be released to the environment during its production, transport, storage, disposal and use in the production of agrochemicals, drugs, rubber antioxidants, and dye intermediates. 1-Naphthol is a hydrolysis and biodegradation product of the insecticide carbaryl (sevin) and will be released to the environment when carbaryl is used. If released in soil, 1-naphthol reacts with naturally-occurring compounds in soil, forming persistent, bound residues. It will also readily biodegrade and degrades in soil in about 5 days. 1-Naphthol degrades in water by biotic and abiotic processes. It disappears from eutrophic river water and paddy water in some what under a week. The stability of 1-naphthol varies with pH with maximum stability occurring at pH 6.3. At pH 4.4 and 8.0, stability is considerably reduced from its optimum value. Studies performed in seawater indicate that 1-naphthol is degraded in sunlight after formation, but appears to be stable at least for a period of 15-23 days in its absence. Biodegradation is also an important loss mechanism. In light-exposed seawater, the half-life of 1-naphthol is 7-9 days. When mud is present, the half-life of 1-naphthol in seawater is reduced to 2.5 days. This is a result of adsorption to the mud as well as enhanced biodegradation. In the atmosphere, 1-naphthol reacts with photochemically-produced hydroxyl radical resulting in a half-life of 1.9 days. Exposure to 1-naphthol is primarily occupational by dermal contact. Agricultural workers who are around crops treated with the insecticide, carbaryl, may constitute a large group of potentially-exposed workers because they may come into contact with sprayed soil and plants containing carbaryl's degradation product, 1-naphthol. (SRC)

Section XIII. Disposal Considerations

Waste Disposal	Recycle to process, if possible. Consult your local or 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 this substance.
----------------	--

Section XIV. Transport Information

DOT Classification	DOT CLASS 6.1: Toxic material.
PIN Number	UN2811
Proper Shipping Name	Toxic solid, organic, n.o.s.
Packing Group (PG)	III
DOT Pictograms	

Section XV. Other Regulatory Information and Pictograms

TSCA Chemical Inventory (EPA)	This compound is ON the EPA Toxic Substances Control Act (TSCA) inventory list.
WHMIS Classification (Canada)	WHMIS CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC).
EINECS Number (EEC)	201-969-4
EEC Risk Statements	R23/24/25- Toxic by inhalation, in contact with skin and if swallowed. R36/37/38- Irritating to eyes, respiratory system and skin.
Japanese Regulatory Data	Not available.

Section XVI. Other Information**Version 1.0****Validated on 3/24/1998.****Printed 2/26/2005.****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.

Printed 2/26/2005.