



# Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	Corrosive to eyes and skin on contact. Combustible liquid.	

## Section I. Chemical Product and Company Identification

Chemical Name	<b>n-Valeric Acid</b>		
Catalog Number	V0003	Supplier	TCI America 9211 N. Harborgate St. Portland OR 1-800-423-8616
Synonym	Pentanoic Acid		
Chemical Formula	CH <sub>3</sub> (CH <sub>2</sub> ) <sub>3</sub> COOH		
CAS Number	109-52-4	In case of Emergency Call	<b>Chemtrec®</b> <b>(800) 424-9300 (U.S.)</b> <b>(703) 527-3887 (International)</b>

## Section II. Composition and Information on Ingredients

Chemical Name	CAS Number	Percent (%)	TLV/PEL	Toxicology Data
n-Valeric Acid	109-52-4	Min. 98.0% (GC)	Not available.	Mouse LD <sub>50</sub> (oral) 600 mg/kg Mouse LC <sub>50</sub> (inhalation) 4100 mg/m <sup>3</sup> /2H

## Section III. Hazards Identification

Acute Health Effects	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.
Chronic Health Effects	<b>CARCINOGENIC EFFECTS</b> : Not available. <b>MUTAGENIC EFFECTS</b> : Not available. <b>TERATOGENIC EFFECTS</b> : Not available. <b>DEVELOPMENTAL TOXICITY</b> Not available. The substance may be toxic to lungs, mucous membranes, upper respiratory tract, eyes, eye, lens or cornea. Repeated or prolonged exposure to the substance can produce target organs damage.

## 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. COLD water may be used. Get medical attention immediately.
Skin Contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. COLD water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
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. Seek medical attention. Treat symptomatically and supportively.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

## Section V. Fire and Explosion Data

Flammability	Combustible.	Auto-Ignition	Not available.
Flash Points	89°C (192.2°F).	Flammable Limits	LOWER: 1.6% UPPER: 7.6%
Combustion Products	These products are toxic carbon oxides (CO, CO <sub>2</sub> ).		
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	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet.		

Continued on Next Page

Emergency phone number (800) 424-9300

**Section VI. Accidental Release Measures**

Spill Cleanup Instructions	Combustible material. Corrosive liquid. Keep away from heat. Mechanical exhaust required. Stop leak if without risk. <b>Neutralize the residue with a dilute solution of sodium carbonate.</b>
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**Section VII. Handling and Storage**

Handling and Storage Information	CORROSIVE. COMBUSTIBLE. Keep away from heat. Mechanical exhaust required. Avoid excessive heat and light. DO NOT ingest. Do not breathe gas/fumes/ vapor/spray. 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.
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**Section VIII. Exposure Controls/Personal Protection**

Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash station and safety shower is proximal to the work-station location.
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Personal Protection	Splash goggles. Lab coat. Vapor 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.
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Exposure Limits	Not available.
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**Section IX. Physical and Chemical Properties**

Physical state @ 20°C	Liquid.	Solubility	Easily soluble in cold water, methanol, diethyl ether.
Specific Gravity	0.94 (water=1)		
Molecular Weight	102.13	Partition Coefficient	Not available.
Boiling Point	185°C (365°F)	Vapor Pressure	0 kPa (@ 20°C)
Melting Point	-20°C (-4°F)	Vapor Density	3.5 (Air = 1)
Refractive Index	1.4086 at 20C	Volatility	Not available.
Critical Temperature	Not available.	Odor	Strong, unpleasant odor
Viscosity	Dynamic: 2.3 cP	Taste	Strong.

**Section X. Stability and Reactivity Data**

Stability	This material is stable if stored under proper conditions. (See Section VII for instructions)
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Conditions of Instability	Not available.
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Incompatibilities	Extremely reactive or incompatible with oxidizing agents.
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**Section XI. Toxicological Information**

RTECS Number	YV6100000
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Routes of Exposure	Absorbed through skin. Eye contact. Inhalation. Ingestion.
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Toxicity Data	Mouse LD <sub>50</sub> (oral) 600 mg/kg Mouse LC <sub>50</sub> (inhalation) 4100 mg/m <sup>3</sup> /2H
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Chronic Toxic Effects	<b>CARCINOGENIC EFFECTS</b> : Not available.
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	<b>MUTAGENIC EFFECTS</b> : Not available.
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	<b>TERATOGENIC EFFECTS</b> : Not available.
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	<b>DEVELOPMENTAL TOXICITY</b> Not available.
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	The substance may be toxic to lungs, mucous membranes, upper respiratory tract, eyes, eye, lens or cornea. Repeated or prolonged exposure to the substance can produce target organs damage.
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Acute Toxic Effects	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.
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**Section XII. Ecological Information**

Ecotoxicity Not available.

Environmental Fate Not available.

**Section XIII. Disposal Considerations**

Waste Disposal

**Section XIV. Transport Information**

DOT Classification CLASS 8: Corrosive liquid.

PIN Number UN3265

Proper Shipping Name Corrosive liquid, acidic, 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) CLASS B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F).  
CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

EINECS Number (EEC) 203-677-2

EEC Risk Statements R38- Irritating to skin.  
R41- Risk of serious damage to eyes.

Japanese Regulatory Data ENCS No. : 2-0604

**Section XVI. Other Information**Version 1.0  
Validated on 12/5/2000.  
Printed 2/23/2005.**Notice to Reader**

TCI laboratory chemicals are for research purposes only and are NOT intended for use as drugs, food additives, household, 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.