Material Safety Data Sheet

n-Amyl Alcohol

ACC# 15280

Section 1 - Chemical Product and Company Identification

MSDS Name: n-Amyl Alcohol
Catalog Numbers: S79904, A394 4, A394 500, A394-4, A394-500, A3944, A394500, A4394J4, NC9507082, S75039
Synonyms: 1-Amyl Alcohol; n-Butyl Carbinol; 1-Pentanol; n-Pentanol; Pentyl Alcohol; Primary Amyl Alcohol.
Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410
For information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
71-41-0	AMYL ALCOHOL	>98	200-752-1
7732-18-5	Water	Balance	231-791-2

Hazard Symbols: XN F
Risk Phrases: 10 20

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: colourless. Flash Point: 119 deg F. Warning! Flammable liquid and vapor. Irritant. May cause eye and skin irritation. May cause respiratory and digestive tract irritation. May cause central nervous system depression. May be absorbed through intact skin. May cause kidney damage. May cause dermatitis.
Target Organs: Kidneys, central nervous system.

Potential Health Effects

Eye: Vapors may cause eye irritation. Contact may cause eye irritation, lacrimation (tearing), burning pain, and inflammation. May cause chemical conjunctivitis and corneal damage.
Skin: May be absorbed through the skin. Causes symptoms similar to those of inhalation. May

cause irritation and dermatitis. May cause cyanosis of the extremities.
Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause effects similar to those for inhalation exposure. Ingestion of large amounts may cause CNS depression.
Inhalation: Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. Inhalation of vapor may cause respiratory tract irritation. Irritation may lead to chemical pneumonitis and pulmonary edema. May cause kidney damage. Aspiration may lead to pulmonary edema. Vapors may cause dizziness or suffocation. May cause burning sensation in the chest.
Chronic: Prolonged or repeated skin contact may cause dermatitis. Effects may be delayed.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
Skin: Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.
Ingestion: Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid immediately.
Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation.
Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Will burn if involved in a fire. Use water spray to keep fire-exposed containers cool. Water may be ineffective. Material is lighter than water and a fire may be spread by the use of water. Containers may explode in the heat of a fire. Flammable liquid and vapor. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.
Extinguishing Media: For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. For large fires, use water spray, fog, or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective. Do NOT use straight streams of water.

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Remove all sources of ignition. Absorb spill using an absorbent, non-combustible material such as earth, sand, or vermiculite. Do not use combustible materials such as saw dust. Use a spark-proof tool.

A vapor suppressing foam may be used to reduce vapors.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with skin and eyes. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Avoid contact with heat, sparks and flame. Avoid ingestion and inhalation. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.
Storage: Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels. Use adequate general or local explosion-proof ventilation to keep airborne levels to acceptable levels.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
AMYL ALCOHOL	none listed	none listed	none listed
Water	none listed	none listed	none listed

OSHA Vacated PELs: AMYL ALCOHOL: No OSHA Vacated PELs are listed for this chemical.
Water: No OSHA Vacated PELs are listed for this chemical.
Personal Protective Equipment
Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin: Wear appropriate gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators: Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance: colourless
Odor: sweetish odor - mild odor
pH: Not available.
Vapor Pressure: 1 mm Hg @ 13C
Vapor Density: 3.0
Evaporation Rate:0.18 (butyl acetate=1)
Viscosity: Not available.
Boiling Point: 280 deg F

Freezing/Melting Point:-110 deg F
Autoignition Temperature: 572 deg F (300.00 deg C)
Flash Point: 119 deg F (48.33 deg C)
Decomposition Temperature:Not available.
NFPA Rating: (estimated) Health: 1; Flammability: 3; Reactivity: 0
Explosion Limits, Lower:1.2
Upper: 10.0
Solubility: Slightly soluble in water.
Specific Gravity/Density:0.8 (water=1)
Molecular Formula:C5H12O
Molecular Weight:88.0834

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.
Conditions to Avoid: High temperatures, incompatible materials, ignition sources, excess heat.
Incompatibilities with Other Materials: Strong oxidizing agents.
Hazardous Decomposition Products: Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:
CAS# 71-41-0: SB9800000
CAS# 7732-18-5: ZC0110000
LD50/LC50:
CAS# 71-41-0:
Draize test, rabbit, eye: 81 mg Severe;
Draize test, rabbit, eye: 5 uL/24H Severe;
Draize test, rabbit, skin: 3200 mg/kg/24H Severe;
Draize test, rabbit, skin: 20 mg/24H Moderate;
Oral, mouse: LD50 = 200 mg/kg;
Oral, rat: LD50 = 5660 uL/kg;
Skin, rabbit: LD50 = 2830 uL/kg;

CAS# 7732-18-5:
Oral, rat: LD50 = >90 mL/kg;

Carcinogenicity:
CAS# 71-41-0: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA. CAS# 7732-18-5: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Epidemiology: No information found.
Teratogenicity: No information found.
Reproductive Effects: No information found.
Neurotoxicity: No information found.
Mutagenicity: No information found.
Other Studies: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	PENTANOLS				N AMYL ALCOHOL
Hazard Class:	3				3
UN Number:	UN1105				UN1105
Packing Group:	III				III
Additional Info:					FLASHPOINT 43C

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 71-41-0 is listed on the TSCA inventory.
CAS# 7732-18-5 is listed on the TSCA inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.
Section 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
SARA

Section 302 (RQ)
None of the chemicals in this material have an RQ.
Section 302 (TPQ)

None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 71-41-0: acute, chronic, flammable.
Section 313
No chemicals are reportable under Section 313.
Clean Air Act:
This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depletors. This material does not contain any Class 2 Ozone depletors.
Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.
STATE
CAS# 71-41-0 can be found on the following state right to know lists: New Jersey, Florida, Pennsylvania, Massachusetts.
CAS# 7732-18-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives
Hazard Symbols:
XN F
Risk Phrases:
R 10 Flammable.
R 20 Harmful by inhalation.

Safety Phrases:
S 16 Keep away from sources of ignition - No smoking.
S 24/25 Avoid contact with skin and eyes.
S 33 Take precautionary measures against static discharges.
S 9 Keep container in a well-ventilated place.

WGK (Water Danger/Protection)
CAS# 71-41-0: 1
CAS# 7732-18-5: No information available.
Canada
CAS# 71-41-0 is listed on Canada's DSL List. CAS# 71-41-0 is listed on Canada's DSL List. CAS# 7732-18-5 is listed on Canada's DSL List. CAS# 7732-18-5 is listed on Canada's DSL List.

This product has a WHMIS classification of B2, D2B.
CAS# 71-41-0 is listed on Canada's Ingredient Disclosure List.
CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.
Exposure Limits
CAS# 71-41-0: OEL-AUSTRALIA:TWA 100 ppm (530 mg/m3) OEL-AUSTRIA:TWA 100 ppm (525 mg/m3) (all isomers) OEL-BELGIUM:TWA 100 ppm (532 mg/m3) OEL-CZECHOSLOVAKIA:TWA 100 mg/m3;STEL 200 mg/m3 OEL-CZECHOSLOVAKIA :TWA 200 mg/m3;STEL 800 mg/m3 OEL-DENMARK:TWA 100 ppm (360 mg/m3) OE L-DENMARK:TWA 100 ppm (525 mg/m3) OEL-FINLAND:TWA 100 ppm (360 mg/m3) ;STEL 150 ppm (540 mg/m3) OEL-FINLAND:TWA 100 ppm (525 mg/m3);STEL 15 0 ppm (790 mg/m3) OEL-FRANCE:TWA 100 ppm (530 mg/m3);STEL 150 ppm (80 0 mg/m3) OEL-GERMANY:TWA 100 ppm (525 mg/m3) OEL-GERMANY:TWA 100 ppm (525 mg/m3) (all isomers) OEL-HUNGARY:TWA 400 mg/m3;STEL 800 mg/m3 OEL-JAPAN:TWA 100 ppm (530 mg/m3) OEL-THE NETHERLANDS:TWA 100 ppm (53

0 mg/m3) OEL-THE PHILIPPINES:TWA 100 ppm (525 mg/m3) OEL-POLAND:TWA 100 mg/m3 OEL-POLAND:TWA 100 mg/m3;STEL 450 mg/m3 OEL-RUSSIA:STEL 10 mg/m3 OEL-RUSSIA:TWA 100 ppm;STEL 100 mg/m3 OEL-SWEDEN:TWA 100 ppm (500 mg/m3);STEL 150 ppm (all isomers) OEL-SWITZERLAND:TWA 100 ppm (5 40 mg/m3) OEL-SWITZERLAND:TWA 100 ppm (540 mg/m3) (all isomers) OEL-TURKEY:TWA 100 ppm (525 mg/m3) OEL-UNITED KINGDOM:TWA 100 ppm (530 mg /m3);STEL 150 ppm

Section 16 - Additional Information

MSDS Creation Date: 12/12/1997
Revision #3 Date: 8/02/2000

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.