An ISO 9001:2000 Certified Company

THE POWER OF THREE®
PHARMCO-AAPER
AND COMMERCIAL ALCOHOLS

**Product Information (203) 740-3471 / Emergency Assistance CHEMTREC 1-800-424-9300**

# MATERIAL SAFETY DATA SHEETS

Manufacturer: PHARMCO-AAPER
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## n-Amyl Alcohol

### 1. CHEMICAL PRODUCT IDENTIFICATION

Product Name: n-Amyl Alcohol
Synonym(s): 1-Amyl Alcohol; n-Butyl Carbinol; 1-Pentanol; n-Pentanol; Pentyl Alcohol; Primary Amyl Alcohol
Molecular Formula: $CH_3(CH_2)_4OH$
Molecular Weight: 88.15

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

| Ingredient | CAS No. | Percent | Hazardous |
|---|---|---|---|
| n-Amyl Alcohol | 71-41-0 | 100% | Yes |

### 3. HAZARDS IDENTIFICATION

WARNING! FLAMMABLE LIQUID AND VAPOR. HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. VAPORS CAUSE RESPIRATORY TRACT IRRITATION AND SEVERE EYE IRRITATION. LIQUID CAUSES SKIN IRRITATION, SEVERE EYE IRRITATION AND POSSIBLE EYE BURNS. AFFECTS CENTRAL NERVOUS SYSTEM.

NFPA Hazard Ratings: Health - 1, Flammability - 3, Reactivity - 0

NOTE: NFPA ratings involve data and interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this MSDS must be considered.

Potential Health Effects

Eye: Vapors may cause eye irritation. Contact may cause tearing, burning pain, and inflammation.

Skin: May cause skin irritation. May be absorbed through the skin. Causes symptoms similar to those of inhalation.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause effects similar to those for inhalation exposure.

Inhalation: Inhalation of high concentrations may cause central nervous system effects characterized by 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.
Chronic: Prolonged or repeated skin contact may cause dermatitis.

Target Organs: Kidneys, central nervous system.

## 4. FIRST-AID MEASURES

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

## 5. FIRE FIGHTING MEASURES

Autoignition Temperature: 572 deg F (300.00 deg C)
Flash Point: 119 deg F (48.33 deg C)
Explosion Limits, Lower: 1.2 Upper: 10.0

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 can travel to a source of ignition and flash back. Combustion generates toxic fumes.

Extinguishing Media: In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam.

## 6. ACCIDENTAL RELEASE MEASURES

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Remove all sources of ignition. Absorb spill using an absorbent, non-combustible material such as earth, sand, or vermiculite.

## 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. Avoid contact with skin and eyes. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. 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 sources of ignition. Store in a cool, dry, well-ventilated area away from incompatible substances.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels.

Exposure Limits

-ACGIH: none listed
-NIOSH: none listed
-OSHA - Final PELs: 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.

## 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:
Viscosity: Not available.
Boiling Point: 280 deg F
Freezing/Melting Point:-110 deg F
Decomposition Temperature:Not available.
Solubility: Slightly soluble in water.
Specific Gravity/Density:0.8 (water=1)

## 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.

Incompatibilities with Other Materials: Strong oxidizing agents. Substance may explode on contact with hydrogen trisulfide.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.
Hazardous Polymerization: Has not been reported.

## 11. TOXICOLOGICAL INFORMATION

RTECS#:
CAS# 71-41-0: SB9800000
CAS# 7732-18-5: ZC0110000
LD50/LC50:
CAS# 71-41-0:
Oral, mouse: LD50 = 200 mg/kg;
Oral, rat: LD50 = 2200 mg/kg;
Skin, rabbit: LD50 = 3600 mg/kg;<BR.

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

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 available.
Teratogenicity: No information available.
Reproductive Effects: No information available.
Neurotoxicity: No information available.
Mutagenicity: Please refer to RTECS# SB9800000 for specific information.
Other Studies: None.

## 12. ECOLOGICAL INFORMATION

Ecotoxicity: Rainbow Trout TLm=370-490 mg/L/96H @ 10xC.
Environmental Fate: Substance undergoes biodegradation (aerobic & anaerobic) when released to soil or water. Substance is highly mobile in soil and has high potential to leach to groundwater. In air, substance reacts with hydroxyl radicals.
Physical/Chemical: No information available.
Other: None.

## 13. DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with federal, state, and local regulations.
RCRA D-Series Maximum Concentration ofContaminants: None listed.
RCRA D-Series Chronic Toxicity ReferenceLevels: None listed.
RCRA F-Series: None listed.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

## 14. TRANSPORT INFORMATION

Domestic (Land, D.O.T.)
Proper Shipping Name: Amyl Alcohols
Hazard Class: 3
UN/NA: UN 1105
Packing Group: III

International (Water, I.M.O.)
Proper Shipping Name: Amyl Alcohols

Hazard Class: 3.3
UN/NA: UN1105
Packing Group: III

International (Air, I.C.A.O.)
Proper Shipping Name: Amyl Alcohols
Hazard Class: 3
UN/NA: UN1105
Packing Group: III

## 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 24/25 Avoid contact with skin and eyes.

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/NDSL List.
CAS# 7732-18-5 is listed on Canada's DSL/NDSL List.
This product has a WHMIS classification of B2, D2B.
CAS# 71-41-0 is not 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) OEL-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 150 ppm (790 mg/m3) OEL-FRANCE: TWA 100 ppm (530 mg/m3); STEL 150 ppm (800 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 (530 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 10mg/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 (540 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

## 16. OTHER INFORMATION

The information contained herein is based on current knowledge and experience; no responsibility is accepted that the information is sufficient or correct in all cases. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers and the protection of the environment.