



SAFETY DATA SHEET

N-PROPYL ALCOHOL

1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

Product name:	N-PROPYL ALCOHOL
Recommended use:	Chemical for industry
Manufacturer/Supplier:	MODERN CHEMICAL Co.Ltd. 82/80 Soi Eakamai 22 (Nuan-noi) Sukhumvit Road 63, North Klong Ton, Wattana, Bangkok 10110
Telephone No:	0-2715-0897-9, 0-2392-3410-3
Fax No:	0-2715-0908-9, 0-2391-1571-2
Emergency Telephone No:	0-2715-0897-9, 0-2392-3410-3

2. HAZARDS IDENTIFICATION

Label elements

Pictogram



Signal word

Danger

Hazard statement(s)

- 1.) Highly flammable liquid and vapour.
- 2.) Causes skin irritation.
- 3.) May be fatal if swallowed and enters airways.
- 4.) May cause drowsiness or dizziness.
- 5.) Toxic to aquatic life with long lasting effects.
- 6.) May damage the unborn child. Suspected of damaging fertility.

Precautionary statement(s)

- 1.) Keep away from heat/sparks/open flames/hot surfaces. - No smoking.



- 2.) Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
- 3.) Avoid release to the environment.
- 4.) IF SWALLOWED: call a doctor/physician. Do NOT induce vomiting.
- 5.) IF IN EYES: Rinse cautiously with water for 15 minutes.
- 6.) IF ON SKIN Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonym: 1-Propanol, n-Propyl alcohol, 1-Hydroxy propane, Ethyl carbinol, n-Propanol, NPA

Ingredients	% (w/w)	CAS NO.
N-PROPYL ALCOHOL	100	71-23-8

4. FIRST AID MEASURES

General advice: Show this safety data sheet to the doctor in attendance.

Inhalation: Move to fresh air in case of accidental inhalation of vapors. Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is not breathing or under medical supervision. No artificial aspiration mouth to mouth or mouth to nose. Use suitable instruments/apparatus.

Skin contact: Remove contaminated clothing and wash affected skin with soap and water. If signs of poisoning appear, treat as for inhalation. Wash contaminated clothing before reuse.
Contaminated combustible material, e.g. clothing ignites more readily and burns fiercely.

Eye contact: If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes. Obtain medical attention.

Ingestion: Rinse mouth. **Do not induce vomiting.** Keep patient warm, In case of shortness of breath, give oxygen. Apply respiration only if patient is not breathing or under medical supervision. No artificial aspiration mouth to mouth or mouth to nose. Use suitable instruments/apparatus. Obtain medical attention. Never give anything by mouth to an unconscious person.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media:

Use water spray, alcohol – resistant foam, dry chemical or carbon dioxide.

Unsuitable Extinguishing Media:

No data available



Specific hazards arising from Chemicals:

Vapors may form explosive mixture with air. Flash back possible over considerable distance.

Special protective equipment for fire-fighters:

Wears self contained breathing apparatus for fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Evacuate personnel to safe areas. Do not breathe vapors or spray mist. Remove all sources of ignition. Wear a positive-pressure supplied-air respirator, flame retardant antistatic protective clothing. Shut off leaks if without risk. Keep people away from and upwind of spill/leak.

Environmental precautions:

Contain or absorb leaking liquid with sand or earth, consults an expert. Prevent liquid entering sewers, basements and workpits. If substance has entered a water course or sewer or contaminated soil or vegetation, advise police.

Methods and Material for Containment and Clean Up:

Spillage: May react with combustible substances creating fire or explosion hazard and formation of toxic fumes. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Soak up with inert absorbent material (e.g. sand, silicagel). Prevent liquid entering sewers, basements and workpits; vapor may create explosive atmosphere. Transfer to covered steel drums. Dispose promptly.

7. HANDLING AND STORAGE

Precautions for Safe Handling & Product Transfer:

Keep container tightly closed. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use only in area provided with appropriate exhaust ventilation. Do not breathe vapors or spray mist.

Avoid contact with skin, eyes and clothing. Do not empty into drains.

Conditions for Safe Storage & Unsuitable Materials:

Keep tightly closed at room temperature in a dry, cool and well ventilated place. Keep away from heat and sources of ignition. Keep out of direct sunlight and away from incompatible material. Store in original container. Electrical equipment should be protected to the appropriate standard.



8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits: TWA 500 mg/m³ (200 ppm), OEL 500 mg/m³ (200 ppm),
STEL 625 mg/m³ (250 ppm).

Appropriate Engineering Controls: The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Ventilation hoods and fans required when working with organic solvents or in hot melt applications.

Individual Protection Measures

Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment. Required when vapor/aerosols are generated: Filter A (acc To DIN3181) for vapors of organic compounds.

Hand protection: Handle with gloves. In case full contact and splash contact wear gloves from butyl rubber material. The select protective gloves have to satisfy the specifications of EU Directive 89/686 EEC and standard EN 374 derived from it.

Eye protection: Goggles giving complete protection to eyes.

Skin and body protections: Chemical resistant apron / flame retardant antistatic protective clothing, heavy duty work shoes.

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end workday. Keep away from food, drink.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form, Color and Odor : liquid, Colourless ,Mild	Evaporation rate : N/A
Melting Point : -127 °C	Specific gravity : 0.8040-0.8150 g/cm ³ at 20 °C
pH : N/A	Solubility in water : Slightly
Boiling point: 88-120 °C	Viscosity : 2.26 mPa.sec
Vapour pressure : 14.5-15 mbar at 20 °C	Vapour density : 2.07 g/l
Lower explosion limits: 2.2 %Vol	Upper explosive limit: 13.7 %Vol
Auto-ignition temperature: 371°C	Flash point: 15 °C
Odour threshold: N/A	Flammability (solid, gas): no data available
Decomposition temperature: N/A	Solubility in other solvents: no data available
n-octanol/water partition coefficient (log P_{ow}): 0.25	



10. STABILITY AND REACTIVITY

Chemical Stability:	Stable under recommended storage conditions.
Reactions:	Highly flammable. Explosible with air in a vaporous/gaseous
Possibility of Hazardous Reactions:	No data available
Conditions to avoid:	Heat, flames and sparks.
Materials to avoid:	Alkali metals, alkali earth metals, alcoholates , strong oxidizing agents.
Hazardous decomposition products:	Carbon monoxide, Carbon dioxides (Hazardous decomposition products from under fire condition).

11. TOXICOLOGICAL INFORMATION

Acute toxicity:	LD50 (oral, rat): 1870 mg/kg LC50 (inhalation, rat): >34 mg/l /4h LD50 (dermal, rabbit): 5040 mg/kg LDLo (oral, human): 5700 mg/kg
Sensitization:	After inhalation; Irritations of mucous membrane, coughing and dyspnoea, drowsiness. After skin contact: Slight irritations. After eyes contact: slight irritations. Risk of serious damage to eyes. After swallowing; Rapid absorption. Headache, dizziness, inebriation, unconsciousness, narcosis. Risk of aspiration upon vomiting. After uptake of large quantities: Respiratory paralysis, coma.
Chronic toxicity:	Patch test (humans): No sensitizing effect. Bacterial mutagenicity: Ames test is negative. Skin irritation test (rabbit): No irritation.
Further toxicological information:	The product should be handled with the care usual dealing with chemicals.

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish:	LC50 - P.promelas – 4630 mg/l- 96 h
Toxicity to daphnia and other aquatic invertebrates:	No data available
Toxicity to algae	IC50 - Pseudokirchneriella subcapitata (green algae) - 1150 mg/l /48h
Toxicity Bacterial;	EC50 - Activated sludge >1000 mg/l /3h
Biodegradability Remarks:	Biodegradation 75% /20 d. Readily biodegradable.



Bioaccumulative Potential: No data available

Mobility: No data available

Affected in any other way: No data available

13. DISPOSAL CONSIDERATIONS

Material Disposal: There are no uniform EC Regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated in the EC member countries through corresponding law and regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose of special waste or burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

Container Disposal: Disposal in compliance with official regulations. Handle contaminated packaging as hazardous waste in the same way of the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

14. TRANSPORT INFORMATION

ADR/ADNR

UN-No: 1274 Class: 3 Packing group: II

Proper shipping name: n-PROPANOL

IMGD

UN-No: 1274 Class: 3 Packing group: II

Ems: F-E S-D Marine pollutant: No

Proper shipping name: n-PROPANOL

IATA

UN-No: 1274 Class: 3 Packing group: II

Proper shipping name: n-PROPANOL

15. REGULATORY INFORMATION

GHS-Labeling

Hazard statement (s):

H225: Highly flammable liquid and vapor.

H318: Causes serious eye damage.



H336: May cause drowsiness or dizziness.

Precautionary statement (s) :

P210: Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

P240: Ground/bond container and receiving equipment.

P241: Use explosion-proof electrical/ventilating/lighting equipment.

P242: Use only non-sparking tools.

P243: Take precautionary measures against static discharge.

P261: Avoid breathing vapors.

P264: Wash hand thoroughly after handling.

P271: Use only outdoors or in a well-ventilated area.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P313: Get medical advice/attention.

P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338: IF IN EYE : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do Continue rinsing.

P312: Call a POISON CENTER or doctor, physician if you feel unwell.

P370+P378: In case of fire: Use carbon dioxide, dry chemical or foam for extinction.

P403+P233: Store in a well-ventilated place. Keep container tightly closed.

P403 + P235: Store in a well-ventilated place. Keep cool.

P405: Store locked up.

R - phrase(s):

R11: Highly flammable.

R41: Risk of serious damage to eyes

R67: Vapor may cause drowsiness and dizziness.

S - phrase(s):

S 7: Keep container tightly closed

S16: Keep away from sources of ignition - No smoking.

S24: Avoid contact with skin.

S26: In case of contacts with eyes, rinse immediately with plenty of water and seek medical advice.

S39: Wear eyes/face protection.



16. Other Information

Modern Chemical Co.,Ltd. provides the information contained herein in good faith but makes no representation as to its comprehensive or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.

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