DAWN SCIENTIFIC
YOUR SCIENTIFIC PARTNER

SAFETY DATA SHEET

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Preparation Date: 01/01/2019 **Revision Date:** N/A **Revision Number:** N/A

1. IDENTIFICATION

Product identifier

Product code: C6700

Product Name: N-PROPYL ALCOHOL, REAGENT, ACS

Other means of identification

Synonyms:
1-Hydroxypropane
1-Propanol
1-Propyl alcohol
Alcool propylique (French)
alcohol propílico (Spanish)
Ethyl carbinol
n-Propanol
Optal
Osmosol Extra
Propan-1-ol
Propanol
Propanol-1
Propylic alcohol

CAS #: 71-23-8

RTECS # UH8225000

CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: Solvent.

Uses advised against No information available

Supplier:

Dawn Scientific Inc
121 Liberty Street, Metuchen, NJ, 08840
Tel : 732-902-6300 | Fax : 973-802-1005
sales@dawnscientific.com | www.dawnscientific.com

Emergency telephone number Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Category 4
Serious eye damage/eye irritation	Category 2
Specific target organ toxicity (single exposure)	Category 3

Specific target organ toxicity (repeated exposure)	Category 2
Flammable liquids	Category 2

Label elements

Danger

Hazard statements
Harmful if swallowed
Causes serious eye irritation
May cause respiratory irritation. May cause drowsiness or dizziness
May cause damage to organs through prolonged or repeated exposure
Highly flammable liquid and vapor

Hazards not otherwise classified (HNOC)
Not Applicable

Other hazards
Can burn with an invisible flame
Causes mild skin irritation

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting/.../equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Wear protective gloves
Wear eye/face protection
Keep cool

Precautionary Statements - Response
Get medical advice/attention if you feel unwell
In case of fire: Use CO_2, dry chemical, or foam to extinguish.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

Precautionary Statements - Storage
Store in a well-ventilated place. Keep container tightly closed
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
n-Propyl Alcohol	71-23-8	100

4. FIRST AID MEASURES

First aid measures

General Advice: National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.

Skin Contact: Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention. If skin irritation persists, call a physician.

Eye Contact: Flush eyes with water for 15 minutes. Get medical attention.

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

Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

Most important symptoms and effects, both acute and delayed

Symptoms

Causes serious eye irritation
Mild skin irritation
Irritating to respiratory system
Central nervous system effects
May cause nausea and vomiting
May cause drowsiness or dizziness
Inhalation of high concentations may cause anesthetic effects
Dyspnea (Shortness of breath and difficulty breathing)
Repeated or prolonged exposure may cause dryness or cracking of the skin

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically.

Protection of first-aiders
First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Carbon dioxide (CO2). Dry chemical. Alcohol-resistant foam. Water spray.

Unsuitable Extinguishing Media: Do not use a solid (straight) water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

Hazardous Combustion Products: Carbon Monoxide, Carbon Dioxide.

Specific hazards: Highly flammable. May be ignited by heat, sparks or

flames. Material can burn with invisible flame. Vapor may travel considerable distance to source of ignition and flash back. Vapors may form explosive mixtures with air. Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks). Container explosion may occur under fire conditions or when heated. Fire may produce irritating, corrosive and/or toxic gases.

Special Protective Actions for Firefighters

Specific Methods: Water mist may be used to cool closed containers. For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out.

Special Protective Equipment for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition. Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use spark-proof tools and explosion-proof equipment. In case of large spill, water spray or vapor suppressing foam may be used to reduce vapors, but may not prevent ignition in closed spaces.

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Absorb spill with inert material (e.g. vermiculite, dry sand or earth). In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Use clean non-sparking tools to collect absorbed material. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:
Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from incompatible materials.

Safe Handling Advice
Wear personal protective equipment. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Take precautionary measures against static discharges. Do not breathe vapors or spray mist. Do not ingest. When using do not smoke. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:
Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Keep away from heat and sources of ignition. Store in a segregated and approved area. Store away from incompatible materials.

Incompatible Materials:
Oxidizing agents
Potassium t-butoxide

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WEEL
n-Propyl Alcohol	71-23-8	200 ppm TWA 500 mg/m^3 TWA	200 ppm TWA 500 mg/m^3 TWA 250 ppm STEL 625 mg/m^3 STEL	100 ppm TWA	None

Canada

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
n-Propyl Alcohol	71-23-8	200 ppm TWA 492 mg/m^3 TWA 400 ppm STEL 984 mg/m^3 STEL	100 ppm TWA	None	None

Australia and Mexico

Components	CAS-No.	Australia	Mexico
n-Propyl Alcohol	71-23-8	250 ppm STEL 614 mg/m^3 STEL 200 ppm TWA 492 mg/m^3 TWA	200 ppm TWA 500 mg/m^3 TWA 250 ppm STEL 625 mg/m^3 STEL

Appropriate engineering controls

Engineering measures to reduce exposure: Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection: Goggles

Skin and body protection: Chemical resistant apron
Long sleeved clothing
Gloves

Respiratory protection: Vapor respirator. Be sure to use an approved/certified respirator or equivalent.

Hygiene measures: Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:
Liquid

Appearance:
Clear.

Color:
Colorless.

Odor:
Ethanol-like.

Taste
Burning. Characteristic. Ripe. Fruity.

Formula:
C3-H8-O

Molecular/Formula weight (g/mole):
60.10

Flammability:
Highly Flammable

Flashpoint (°C/°F):
15-23 °C/59-73.4 °F

Flash Point Tested according to:
Closed cup

Autoignition Temperature (°C/°F):
371-412 °C/700-773.6 °F

Lower Explosion Limit (%):
2-2.3%

Upper Explosion Limit (%):
13-13.7%

Melting point/range(°C/°F):
-127 to -126 °C/-196.6 to -194.8 °F

Decomposition temperature(°C/°F):
No information available

Boiling point/range(°C/°F):
97.2 °C/207 °F

Bulk density:
No information available

Density (g/cm3):
0.803

Specific gravity:
0.8044-0.8053

pH:
No information available

Vapor pressure @ 20°C (kPa):
2

Evaporation rate:
1 (Butyl acetate = 1)

Vapor density:
2.1

VOC content (g/L):
803-805

Odor threshold (ppm):
2.6-40

Partition coefficient (n-octanol/water):
0.25

Viscosity:
No information available

Miscibility:
Miscible with water
Miscible with Ether
Miscible with alcohol

Solubility:
Freely soluble in water
Soluble in Benzene
Soluble in Acetone

10. STABILITY AND REACTIVITY

Reactivity
Ignition occurs when potassium tert-butoxide reacts with n-propanol

Chemical stability

Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Ignition sources. Incompatible materials.

Incompatible Materials: Oxidizing agents
Potassium t-butoxide

Hazardous decomposition products: Carbon monoxide. Carbon dioxide. When heated to decomposition it emits acrid smoke and irritating fumes.

Other Information

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Ingestion. Skin. Eyes. Inhalation.

Acute Toxicity

Component Information

n-Propyl Alcohol	
CAS-No.	71-23-8

LD50/oral/rat = 1870 mg/kg Oral LD50 Rat (LOLI and RTECS)
2200 mg/kg (RTECS)
LD50/oral/mouse = 6800 mg/kg
LD50/dermal/rabbit = 4049 mg/kg Dermal LD50 Rabbit (LOLI)
5040 mg/kg Dermal LD50 Rabbit (RTECS)
LD50/dermal/rat = No information available
LC50/inhalation/rat = >13548 ppm Inhalation LC50 Rat 4 h
>41.8 mg/l Inhalation LC50 Rat 4 h
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = 2825 mg kg Oral LD50 Rabbit

Product Information

LD50/oral/rat =
VALUE- Acute Tox Oral = 1870 mg/kg

LD50/oral/mouse =
Value - Acute Tox Oral = 6800 mg/kg

LD50/dermal/rabbit
VALUE-Acute Tox Dermal = 4049 mg/kg

LD50/dermal/rat
VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat
VALUE-Vapor = No information available
VALUE-Gas = >13548 ppm (4-hr)
VALUE-Dust/Mist = >41.8 mg/l (4-hr.)

LC50/Inhalation/mouse
VALUE-Vapor = No information available
VALUE - Gas = No information available
VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: May cause skin irritation. Mild skin irritation. It may be absorbed through the skin.

Eye Contact: Causes eye irritation. Moderately irritating to the eyes. Possible eye damage.

Inhalation Irritating to respiratory system. Inhalation of high concentrations of vapor may cause anesthetic effects. Inhalation of high concentrations of vapors may cause dizziness or suffocation. It may affect behavior/central nervous system (ataxia, general anesthetic, drowsiness). May affect behavior/central nervous system (headache, lethargy, sleepiness, confusion, weakness, coma). May cause dyspnea (difficulty breathing or shortness of breath). May cause nausea, vomiting.

Ingestion Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May affect behavior/central nervous system (dizziness, headache). It may affect behavior/central nervous system (central nervous system depression, ataxia, general anesthetic). May affect behavior/central nervous system (lethargy, fatigue, sleepiness, weakness, confusion, fainting or near fainting, coma). May affect the cardiovascular system (hypotension). May affect the cardiovascular system (slow heart rate (bradycardia)). May affect respiration (shortness of breath).

Aspiration hazard No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity Prolonged or repeated ingestion may affect the liver. Prolonged or repeated inhalation may affect the brain. Prolonged or repeated inhalation may affect the liver. Repeated or prolonged skin contact may cause dryness and cracking of the skin.

Sensitization: No information available.

Mutagenic Effects: Mutations in microorganisms
Experiments with bacteria and/or yeast have shown mutagenic effects

Carcinogenic effects: Not classifiable as a human carcinogen. May cause cancer based on animal test data. Tumorigenic agent by RTECS criteria.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
n-Propyl Alcohol	71-23-8	Not listed	A4 Not Classifiable as a Human Carcinogen	Not listed	Not listed	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity No data is available

Reproductive Effects: No information available
Developmental Effects: May cause adverse developmental effects based on animal data
No information on developmental toxicity effects on humans was found
Teratogenic Effects: There is limited evidence that Propyl Alcohol is a teratogen in animals

Specific Target Organ Toxicity

STOT - single exposure Respiratory system.

STOT - repeated exposure May cause damage to organs through prolonged or repeated exposure.
Target Organs: Liver. Central nervous system. Skin.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

n-Propyl Alcohol - 71-23-8
Freshwater Fish Species Data: 4480 mg/L LC50 Pimephales promelas 96 h flow-through 1
Water Flea Data: 3642 mg/L EC50 Daphnia magna 48 h 3339 - 3977 mg/L EC50 Daphnia magna 48 h

Persistence and degradability: No information available

Bioaccumulative potential: No information available.

Mobility: No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:
Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:
Empty containers should be taken for local recycling, recovery or waste disposal

Components	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
n-Propyl Alcohol	71-23-8	None	None	None	None

14. TRANSPORT INFORMATION

DOT
UN-No: UN1274
Proper Shipping Name: n-Propanol
Hazard Class: 3
Subsidiary Class No information available
Packing group: II
Emergency Response Guide Number 129
Marine Pollutant Severe Marine Pollutant
DOT RQ (lbs): No information available
Special Provisions B1, IB2, T4, TP1
Symbol(s): No information available
Description: UN1274, n-Propanol, 3, II

TDG (Canada)
UN-No: UN1274
Proper Shipping Name: n-Propanol
Hazard Class: 3
Subsidiary Risk: No information available
Packing Group: II

Marine Pollutant No Information available
Description: UN1274, n-Propanol, 3, II

ADR
UN-No: UN1274
Proper Shipping Name: n-Propanol
Hazard Class: 3
Packing Group: II
Subsidiary Risk: No information available
Description: UN1274, n-Propanol, 3, II

IMO / IMDG
UN-No: UN1274
Proper Shipping Name: n-Propanol
Hazard Class: 3
Subsidiary Risk: No information available
Packing Group: II
Marine Pollutant No information available
EMS: F-E
Description UN1274, n-Propanol, 3, II

RID
UN-No: UN1274
Proper Shipping Name: n-Propanol
Hazard Class: 3
Subsidiary Risk: 3
Packing Group: II
Description: UN1274, n-Propanol, 3, II

ICAO
UN-No: UN1274
Proper Shipping Name: n-Propanol
Hazard Class: 3
Subsidiary Risk: No information available
Packing Group: II
Description: UN1274, n-Propanol, 3, II
Special Provisions A3

IATA
UN-No: UN1274
Proper Shipping Name: n-Propanol
Hazard Class: 3
Subsidiary Risk: No information available
Packing Group: II
ERG Code: 3L
Special Provisions No information available
Description: UN1274, n-Propanol, 3, II

15. REGULATORY INFORMATION

International Inventories

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
n-Propyl Alcohol	71-23-8	PresentACTIVE	Present KE-29362	Present	Present (2)-207	Present	Present	Present 200-746-9

U.S. Regulations

n-Propyl Alcohol

Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: 1605
Pennsylvania RTK: Present
Minnesota - Hazardous Substance List: Present
California Directors List of Hazardous Substances: Present

FDA - Direct Food Additives 21 CFR 172.515
FDA - 21 CFR - Total Food Additives - List Sourced from EAFUS 172.515, 175.105, 176.180, 176.210, 177.1200, 573.880

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	CAS-No.	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
n-Propyl Alcohol	71-23-8	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CAS-No.	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
n-Propyl Alcohol	71-23-8	None	None	None	None	None

U.S. TSCA

Components	CAS-No.	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
n-Propyl Alcohol	71-23-8	Not Applicable	Not Applicable

Canada

WHIMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information: .

Component
n-Propyl Alcohol
71-23-8 (100)

WHMIS 2015 Hazard Classification
Flammable liquids - Category 2: H225 Highly flammable liquid and vapour.; Acute toxicity - Oral - Category 4: H302 Harmful if swallowed.; Serious Eye Damage/Eye Irritation - Category 2A: H319 Causes serious eye irritation.

Canada Hazardous Products Regulation This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

Components	WHMIS Ingredient Disclosure List -
n-Propyl Alcohol	1 %

Inventory

Components	CAS-No.	Canada (DSL)	Canada (NDSL)

n-Propyl Alcohol	71-23-8	Present	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
n-Propyl Alcohol	71-23-8	Not listed
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
n-Propyl Alcohol	71-23-8	Not listed

EU Classification

EU GHS - SV - CLP 1272/2008

Components	CAS-No.	EU GHS - SV - CLP (1272/2008)
n-Propyl Alcohol	71-23-8	Flammable liquids - Flam. Liq. 2: H225 Highly flammable liquid and vapour.; Serious Eye Damage/Eye Irritation - Eye Dam. 1: H318 Causes serious eye damage.; Specific target organ toxicity - Single exposure - STOT SE 3: H336 May cause drowsiness or dizziness.603-003-00-0

EU - CLP (1272/2008)

R-phrase(s)
R11 - Highly flammable.
R41 - Risk of serious damage to eyes.
R67 - Vapors may cause drowsiness and diziness.

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 contact with eyes, rinse immediately with plenty of water and seek medical advice.
S39 - Wear eye/face protection.

Components	CAS-No.	**Classification**	**Concentration Limits:**	**Safety Phrases**
n-Propyl Alcohol	71-23-8	F; R11 Xi; R41 R67	No information	S7 S16 S24 S26 S39

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:
Xi - Irritant.
F - Highly flammable.

Xi

F

16. OTHER INFORMATION

Preparation Date: 01/01/2019

Revision Date: N/A

Prepared by: -

Disclaimer: All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Dawn Scientific Inc Chemicals & Laboratory Products, assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Dawn Scientific Inc assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet