

Material Safety Data Sheet

1. IDENTIFICATION OF THE SUBSTANCE/ PREPARATION AND COMPANY/ UNDERTAKING

Material Name : NPAC
Uses : Solvents for nitrocellulose resins, components of lacquers and printing inks
Supplier : Chemisol Inc.
 3/F Johnson Bldg. #5 D. Muñoz St.
 Tandang Sora, Quezon City
 Philippines

Telephone : (632) 9385388
Fax : (632) 9383818

Emergency Telephone Number : (632) 9385388

2. HAZARDS IDENTIFICATION

GHS Classification : Flammable Liquids: Category no. 2
 Serious Eye Damage/Eye Irritation: Category no. 2B
 Acute Toxicity: Category no. 5 (inhalation)
 Skin Irritation: Category no. 3
 Specific Target Organ Toxicity (single exposure): Category no. 1
 Central Nervous System
 Specific Target Organ Toxicity (single exposure): Category no. 2
 Liver
 Specific Target Organ Toxicity (single exposure): Category no. 3
 respiratory irritation, drowsiness and dizziness
 Acute Aquatic Toxicity: Category no. 3

GHS Label Elements
Symbol(s) :



Signal Words : Danger
GHS Hazards Statements : PHYSICAL HAZARDS :
 H226: Highly flammable liquid and vapour
 HEALTH HAZARDS:
 H333: May be harmful if inhaled
 H316: Causes mild skin irritation
 H320: Causes eye irritation
 H370: Causes damage to organs
 H335: May cause respiratory irritation
 H336: May cause drowsiness or dizziness
 ENVIRONMENTAL HAZARDS:
 H402: Harmful to aquatic life

GHS Precautionary Statements
Prevention : P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.

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	<p>P233: Keep container tightly closed. 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. P260: Do not breathe mist/vapours/spray. P264: Wash hands thoroughly after handling. P270: Do not eat, drink or smoke when using this product. P273: Avoid release to the environment. P280: Wear protective gloves/protective clothing/eye protection/face protection.</p>
Response	<p>: P303+361+353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P304+312: IF INHALED: Call a POISON CENTER or doctor/physician if you Feel unwell. P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P332+313: If skin irritation occurs: Get medical advice/attention. P337+313: If eye irritation persists: Get medical advice/attention. P370+378: In case of fire: Use appropriate extinction.</p>
Storage	<p>: P403+235: Store in a well-ventilated place. Keep cool. P405: Store locked up.</p>
Disposal	<p>: P501: Dispose of contents/container in accordance with local/regional/national/international regulations.</p>
Response	<p>P260: Do not breathe vapour. : P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or physician. P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all Contaminated clothing. Rinse skin with water or shower.</p>
Storage	<p>: P235: Keep cool. P403+P233: Store in a well-ventilated place. Keep container tightly closed. P405: Store locked up.</p>
Disposal	<p>: P501: Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.</p>
Aggravated Medical Condition	<p>: Pre-existing medical conditions of the following organ(s) or organ system(s) may be aggravated by exposure to this material: Skin. Respiratory system. Auditory system.</p>
Other Hazards which do not result in classification	<p>: In use, may form flammable/explosive vapour-air mixture. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire.</p>

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Material Formal Name : N-Propyl Acetate

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Synonyms : Acetic acid n-propyl ester
Acetic acid propyl ester
1-acetoxypropane
1-propyl acetate
n-propyl ethanoate

CAS No. : 109-60-4

INDEX No. : 607-024-00-6

EINECS No. : 203-686-1

Structural Formula : C₅H₁₀O₂

Chemical Name	Synonyms	CAS No.	Hazards Class (category)	Hazard statements	Conc.
N-Propyl Acetate	Acetic acid n-propyl ester Acetic acid propyl ester 1-acetoxypropane 1-propyl acetate n-propyl ethanoate	109-60-4	Flam. Liq., 2; Eye Irrit., 2B; Skin Irrit., 3; STOT SE, 1,2,3; Aquatic Acute, 3;	H226;H333; H316;H320; H370;H335; H336;H402;	100%

4. FIRST AID MEASURES

Inhalation : Remove to fresh air. If rapid recovery does not occur, transport to the nearest medical facility additional treatment.

Skin Contact : Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available.

Eye Contact : Flush eyes with copious quantities of water. If persistent irritation occurs, obtain medical attention.

Ingestion : In general no treatment is necessary unless large quantities are swallowed, however, get medical advice.

Advice to Physician : Treat symptomatically. Following cases of gross over-exposure, investigation of liver, kidney and eye function may be advisable. Records of such incidents should be maintained for future reference.
Gastric lavage and charcoal can be used for treatment after this product has been swallowed.

5. FIRE FIGHTING MEASURES

Specific Hazards : Clear fire area of all non-emergency personnel. The vapour is heavier than air, spreads along the ground and distant ignition is possible. Will only burn if enveloped in a pre-existing fire. Hazardous combustion products may include: Carbon monoxide.

Extinguishing Media : Large fires should only be fought by properly trained fire fighters. Alcohol resistant foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may used for small fires only.

Unsuitable Extinguishing Media : Do not use water in a jet.

Protective Equipment for Firefighters : Wear full protective clothing and self-contained breathing apparatus.

Additional Advice : All storage areas should be provided with adequate fire fighting facilities. Keep adjacent containers cool by spraying with water.

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6. ACCIDENTAL RELEASE MEASURES

Observe all relevant local and international regulations. Avoid contact with spilled or released material. Immediately remove all contaminated clothing. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. See Chapter 13 for information on disposal.

- Protective Measures** : Avoid inhaling vapour and/or mists. Avoid contact with the skin. Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks use appropriate containment to avoid environmental contamination. Prevent from spreading or entering into drains, ditches or rivers by using sand, earth or other appropriate barriers. Ventilate contaminated area thoroughly.
- Clean Up Methods** : For large liquid spills (>1 drum), transfer by mechanical means such as vacuum truck to a salvage tank recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. For small liquid spills (<1 drum), transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.
- Additional Advice** : Proper disposal should be evaluated based on regulatory status of this material (refer to section 13), potential contamination from subsequent use and spillage, and regulations governing disposal in the local area. Observe all relevant regulations.

7. HANDLING STORAGE

- General Precautions** : Avoid breathing vapours or contact with material. Only use in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.
- Handling** : In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material. Use local exhaust extraction over processing area. For lines and fittings, avoid copper, copper alloys, zinc. Avoid contact with skin, eyes, and clothing. Air-dry contaminated clothing in a well ventilated area before laundering. Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. Do not empty into drains. Handling Temperature: Ambient. When handling product in drums, safety foot wear should be worn and proper handling equipment should be used.
- Storage** : Prevent all contact with water and moist atmosphere. Tanks must be clean, dry and rust-free. Must be stored in a diked (bunded) well-ventilated area, away from sunlight, ignition sources and other sources of heat. Nitrogen blanket recommended for large tanks (capacity 100 m³ or higher). Drums should be stacked to a maximum of 3 high. Keep container tightly closed. Keep dry. Must be stored in a well-ventilated area, away from sunlight, ignition sources and other sources of heat. Prevent ingress of water. Storage Temperature: 40 °C maximum.

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- Product Transfer** : Lines should be purged with nitrogen before and after product transfer. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire. Keep containers closed when not in use.
- Additional Information** : Ensure that all local regulations regarding handling and storage facilities are followed. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure limits

Material	Source	Type	ppm	mg/m ³	Notation
N-Propyl Acetate	ACGIH	TLV-TWA	200		
		STEL	250		

- Additional Information** : Wash hands before eating, drinking, smoking, and using the toilet.
- Exposure Controls** : No exposure controls are ordinarily required under normal conditions of use. It is good general industrial hygiene practice to minimize exposure to the material.
- Personal Protective Equipment** : Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.
- Respiratory Protection** : No respiratory protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material.
- Hand Protection** : Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F39, AS/NZS:2161) made from the following materials may provide suitable chemical protection. Incidental contact/splash protection: PVC. Neoprene rubber. Nitrile rubber. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Thin disposal gloves should be avoided for long term use. When worn, use once and dispose. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.
- Eye Protection** : Chemical splash goggles (Chemical monogoggles). Approved to EU Standards EN166, AS/NZS: 1337.
- Protective Clothing** : Skin protection not ordinarily required beyond standard issue clothes.
- Monitoring Methods** : Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate. . Examples of sources of recommended air monitoring methods are given below or contact supplier. Further national methods may be available. National Institute of Occupational Safety and Health(NIOSH), USA: Manual of analytical Methods <http://www.cdc.gov/niosh/nmam/nmammenu.html> Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods <http://www.osha-slc.gov/dts/sltc/methods/toc.html> Health and Safety Executive (HSE), UK:

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Methods for the determination of Hazardous Substances <http://www.hsl.gov.uk/search.htm> Berufsgenossenschaftliches Institut für Arbeitssicherheit (BIA), Germany <http://www.hvbg.de/d/bia/pub/grl/grle.htm> L'Institut National de Recherche et de Sécurité, (INRS), France <http://www.inrs.fr/indexnosdoss.html>

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Liquid
Colour	: Colourless
Odour	: Pear taste
Smell threshold	: 0.048-0.7 ppm (detect) 0.14-26 ppm (perceive)
pH	: No data
Melting point	: -92 °C
Initial boiling point and boiling range	: 101.6 degree C (boiling point) 5), 101.67 degree C (boiling point)Sublimation point
Flash point	: 14 degree C (closed-cup)
Evaporation rate	: No data
Flammability (solid, gas)	: liquid
Upper/lower flammability or explosive limits	: lower limit 2 vol%, upper limit 8 vol%
Vapor pressure	: 3300Pa (20 degree C)
vapour density (air=1)	: 3.52
Relative Density (water=1)	: 0.887
Solubility(ies)	: slightly soluble in water. 1.6mL/100mL water (16 degree C), 2.3wt% (20 degree C),. soluble in alcohol, ether. soluble in alcohol, ether, hydrocarbon, ester.
Partition coefficient: n-octanol/water	: log Pow= 1.24
Autoignition temperature	: 450 degree C
Decomposition temperature	: No data
GHS Classification	: Physical Hazards Flammable liquids Category 2 because of its flash point: 13 degree C, initial boiling point: 101.6 degree C, and UNRTDG Class: 3, PGII Highly flammable liquid and vapour (Flammable liquids Category 2)
Specific Gravity	: 0.836 (Water = 1)
Water/Oil Dist. Coeff.	: The product is equally soluble in oil and water; log(oil/water) = 0.1

10. STABILITY AND REACTIVITY

Chemical Stability	: This product is stable without water. Flammable gas
Possibility of hazardous reactions	: React with strong oxidizing reagent. Polymerization under heat. etc.
Possibility of hazardous reactions	: React with strong oxidizing reagent. Polymerization under heat. etc.
Incompatible materials	: strong oxidizing reagent
Hazardous decomposition products	: CO, CO2

11. TOXICOLOGICAL INFORMATION

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Acute Oral Toxicity	: LD50 value = 9.8 ml/kg (8700 mg/kg) Oral administration in rats
Acute Dermal Toxicity	: LD50 >20ml/kg (reduced value: >17720mg/kg) in rabbit dermal administration
Acute Inhalation Toxicity	: 8000 ppm (4 among 6 rats died) LCLo = 8000 ppm LC50 ≈ 8000 ppm, Category no. 5
Skin Irritation	: mild (open irritation test on rabbit), Category no. 3 Causes mild skin irritation, Category no. 3
Serious Eye Damage/ Eye Irritation	: mild (Draize test on rabbit), Category no. 2B Irritant against eyes of cats and humans R36, EU
Respiratory/Skin Sensitization	: No data available
Germ Cell Mutagenicity	: No data available
Carcinogenicity	: No data available
Reproductive Toxicity	: No data available
Specific Target Organ Toxicity single exposure	: salivation (10.9 mg/L, ACGIH), in cat staggering gaits (30.9 mg/L, PATTY), in cat stillness (exposure dosage ignorance), in rat anesthesia action (ACGIH), in cat and mice Category no. 1 (central nervous system) Category no. 2 (hepatic) Category no. 3 (respiratory irritation, anesthesia action)
Specific Target Organ Toxicity Repeated exposure	: No available data
Aspiration Hazard	: No available data

12. ECOLOGICAL INFORMATION

Acute Aquatic Toxicity: Category no. 3	
LC ₅₀ for fish	: 60mg/L (96Hrs.)
BCF	: 2.4-5.1
Persistence and Degradability	
BOD5	: 62%
Might decompose in water	
Half-life (release in air and reacted with hydrogen free radical)	: 3.39-6.69 days
Half-life (air)	: 81.36-160-56 Hrs
Half-life (water)	: 6.5 Hrs

13. INFORMATION ON DISPOSAL

Contaminated Packing Material	: Explosive mixes formed with air even in empty, soiled containers.
Material Disposal	: Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to

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Container Disposal

determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses. Waste product should not be allowed to contaminate soil or water.

: Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Refer to Section 7 before handling the product or containers. Residues may cause an explosion hazard. Do not puncture, cut or weld uncleaned drums. Send to drum recoverer or metal reclaimer.

14. TRANSPORT INFORMATION

UN Identification number : UN 1276
UN Proper shipping name : N-Propyl Acetate/NPAC
Transport Hazard Class : Class 3: Flammable liquids
Packing group : II
Marine pollutant : No
Special Provision for transport : not available

15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

This product is subject to the following:
Labor Safety and Health Law
Dangerous Chemical Material Symbol Act.
Fire Service Act.

16. OTHER INFORMATION

MSDS Version Number : 1.0
MSDS Effective Date : 08.05.2012
MSDS Revisions : A vertical bar (|) in the left margin indicates an amendment from the previous version.
Uses and Restrictions : Industrial Solvent.
MSDS Distribution : The information in this document should be made available to all who may handle the product
Disclaimer : This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.