

Material Safety Data Sheet

Section 1 : Chemical Product and Company Identification

Product Name : Nitrocellulose solution

CAS # : 9004-70-4

RTECS : Not applicable

Synonym : Nitrocellulose solution

Chemical Formula : Not applicable

Manufacturer/Supplier : China

Section 2 : Composition and Information on Ingredients

Name	CAS#	Weight (1)	Weight (2)
Nitrocellulose	9004-70-0	240	200
Toluene	108-88-3	100	100
Ethyl Acetate	141-78-6	100	180
Ethyl Acetate	123-86-4	180	180

Section 3 : Hazards Identification

Potential Acute Health Effects :

Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion. Slightly Hazardous in case of skin contact (permeator). Non-corrosive for skin. Non-corrosive to the eyes. Non-corrosive for lungs

Section 4 : First Aid Measures

Eye Contact :

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Get medical attention.

Skin contact :

In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious Skin Contact :

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation :

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.

Serious Inhalation :

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

Ingestion :

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion : Not available.

Section 5 : Fire and Explosion Data

1) Butyl Acetate

Flammability of the Product : Flammable.

Ignition Temperature : 421°C (356°F).

Flash Points : open cup 33°C, closed cup 27°C

Flammable Limits (V/V) : lower 1.4%, upper 8.0%

Products Combustion : These products are carbon oxides (CO, CO₂)

2) Ethyl Acetate

Flammability of the Product : Flammable.

Ignition Temperature : 426°C

Flash Points : open cup -4°C

Flammable Limits (V/V) : lower 2.0%, upper 11.5%

3) Toluene

Flammability of the Product : Flammable.

Flash Points : open cup 4.4°C (closed cup)

Flammable Limits (V/V) : lower 1.2%, upper 7.0%

Products Combustion : CO, CO₂

Fire Hazards in Presence of Various Substances :

Extremely flammable in presence of open flames and sparks, of heat. Slightly flammable to flammable in presence of oxidizing materials, of acids.

Explosion Hazards in Presence of Various Substances :

Risks of explosion of the product in presence of mechanical impact : Not available.

Highly of explosive in presence of open flames and sparks.

Slightly explosive in presence of acids

Fire Fighting Media and Instructions :

Flammable liquid, insoluble in water.

SMALL FIRE : Use DRY chemical powder.

LARGE FIRE : Use water spray or fog.

Special Remarks on Fire Hazards :

Highly flammable, will be easily ignited by heat, sparks, and flames. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. Burns with smokey greenish flame. Violent reaction or ignition on contact with halogens (e.g., bromine, chlorine), interhalogens (e.g., iodine heptafluoride), oxidants (e.g., silver perchlorate, nitrosyl perchlorate, nitryl perchlorate, chromyl chloride, fluorine nitratem permanganic acid, nitric acid, hydrogen peroxide, peroxodisulfuric acid, iodine (VII) oxide, sodium reoxide, ozone, and liquid air), sulfur and sulfur compounds (e.g., sulfur when dried with peroxidized ether, sulfuryl chloride). (Ethyl ether)

Special Remarks on Explosion Hazards :

Vapors may form explosive mixtures with air. Vapor explosion hazard indoors, outdoors, or in sewers.

Run off to sewers. Run off to sewer may create a fire or explosion hazard. Containers may explode when heated. Tends to form explosive preoxides under influence of light and air and evaporated to dryness.

Explosive reaction with boron triazide, bromine trifluoride, bromine pentafluoride, perchloric acid, uranyl nitrate + light, wood pulp extracts + heat.

Only electrical equipment of explosion proof type (group C classification) is permitted to be operated in ether areas.

May explode when brought in contact with anhydrous nitric acid (Ethyl ether)

Section 6 : Accidental Release Measures

Small Spill :

Absorb with an inert material and out the spilled material in an appropriate wate disposal.

Large Spill :

Toxic flammable liquid, insoluble or very slightly soluble in water.

Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Prvent entry into sewers, basements or confines areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7 : Handing and Storage

Pe cautions :

Keep locked up. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Wear equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, acids, alkalis, moisture.

Storage :

Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

Section 8 : Exposure Controls/Personal Protection

Engineering Controls :

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-stations location.

Personal Protection :

Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill :

Splash goggles. Full suit. Vapor respirator, Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protected protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Section 9 : Physical and Chemiacal Properties

Physical state and appearance : Liquid. (Viscous liquid)

Odor : Ethereal (Strong)

Taste : Not available.

Molecular Weight : Not available.

Color : Clear Colorless to light yellow.

Ph (1% soln/water) : Neutral.

Boiling Point : 36.111°C (97°F)

Melting Poit :

May start to solidify at -114.1°C (-173.4°F) based on data for : Ethyl alcohol 200 Proof.

Weighted average : -115.73°C (-176.3°F)

Critical Temperature : The lowest known value is 192.7°C (378.9°F) (Ethyl ether)

Specific Gravity : 0.76 (water = 1)

Vapor Pressure : The highest known value is 58.6 kPa (@ 20°C) (Ethyl ether). Weighted average : 40.66 kPa (@ 20°C)

Vapor Density : >1 (Air = 1)

Volatility : Not available.

Odor Threshold : The highest known value is 100 ppm (Ethyl alcohol 200 Proof). Weighted average : 26.33ppm

Water/Oil Dist. Coeff. : Not available.

Ionicity (in water) : Not available.

Dispersion Properties :

Is not dispersed in cold water, hot water.

See solubility in methanol, diethyl ether, acetone.

Solubility :

Easily soluble in hot water.

Soluble in methanol, diethyl ether, acetone.

Very slightly soluble in cold water.

Section 10 : Stability and Reactivity Data

Stability : The product is stable.

Instability Temperature : Not available.

Conditions of Instability :

Heat, ignition sources, incompatible materials, moisture (water). Avoid allowing Nitrocellulose resin to become dry and avoid friction and impact to any quantity of dry resin. Dry Nitrocellulose resin is extremely flammable and burns explosively and is friction and impact sensitive.

Incompatibility with various substance : Reactive with oxidizing agents, reducing agents, acids, alkalis.

Corrosivity : Non-corrosive in presence of glass.

Special Remarks on Reactivity :

Incompatible with amines, bromine trifluoride, chlorine trifluoride, halogens, nitric acid, permanganates, silver perchlorate, sodium peroxide, sulfur, sulfuric acid, hydrogen peroxide, ozone, bromine, chromyl chloride, fluorine nitrate, nitrosyl perchlorate, bromine pentafluoride, perchloric acid, chromic anhydride, interhalogens, chlorine, uranium nitrate, iodine heptafluoride, boron triazide, wood pulp extracts + heat, acetyl peroxide, bromoazide, potassium peroxide, triethyl or trimethyl aluminum + air, iodine (VII) oxide, sulfonyl chloride, liquid air.

Special Remarks on Corrosivity : Not available.

Polymerization : Will not occur.

Section 11 : Toxicological Information

Routes of Entry : Absorbed through skin. Eye contact. Inhalation. Ingestion.

Toxicity to Animals : Acute oral toxicity (LD50) : 1215 mg/kg (Rat). (Ethyl ether).

Chronic Effects on Humans :

CARCINOGENIC EFFECTS : Classified A4 (Not classifiable for human or animal) by ACGIH (Camphor (DL))

Classified PROVEN by State of California Proposition 65 (Ethyl alcohol 200 Proof). Classified A4 (Not classifiable for human or animal) by ACGIH (Ethyl alcohol 200 Proof)

MUTAGENIC EFFECTS : Mutagenic for mammalian somatic cells. (Ethyl ether). Mutagenic for bacteria and/or yeasts. (Ethyl ether). Mutagenic for mammalian somatic cells. (Ethyl alcohol 200 Proof).

Mutagenic for bacteria and/or yeast. (Ethyl alcohol 200 Proof).

TERATOGENIC EFFECTS : Classified PROVEN for human (Ethyl alcohol 200 Proof).

DEVELOPMENTAL TOXICITY : Classified Development toxin (PROVEN) (Ethyl alcohol 200 Proof). Classified Reproductive system/toxin/female, Reproductive system/toxin/male (POSSIBLE) (Ethyl alcohol 200 Proof).

Contains material which may cause damage to the following organs : eyes.

Other Toxic Effects on Humans :

Hazardous in case of ingestion.

Slightly hazardous in case of skin contact (irritant, permeator) and eye contact (irritant), of inhalation (lung irritant).

Special Remarks on Toxicity to Animals :

LD50 (Rabbit) – Route : Skin; Dose : >20 ml/kg

LDL(Man) – Route Oral : Dose : 260 mg/kg (Ethyl ether)

Special Remarks on Chronic Effects in Humans : May affect genetic material (mutagenic) based on animal data (Ethyl ether)

Special Remarks on other Toxic Effects on Humans :

Acute Potential Health Effects :

Skin : Causes skin irritation. It is not appreciably absorbed through intact skin.

Eyes : Causes eye irritation. Can cause slight, reversible eye injury from contact with liquid or vapor.

Inhalation : It is rapidly absorbed through lungs. Vapor mist causes irritation of the respiratory tract and mucous membranes. Affects behavior, sense organs, peripheral and central nervous systems, liver and metabolism.

Symptoms may include excitement, drowsiness, headache, nausea, vomiting, paleness, decreased pulse and temperature, irregular respiration, coughing, bronchodilation, increase in respiratory rate, increase in heart rate, excessive salivation, muscle relaxation, anesthetic effects, and possible kidney irritation or injury, and temporarily abnormal liver function tests.

Ingestion : May be harmful if swallowed. May cause gastrointestinal tract irritation with nausea, vomiting (Ethyl ether)

Section 12 : Ecological Information

Ecotoxicity : Not available.

BOD5 and COD : Not available.

Products of Biodegradation :

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise

Toxicity of the Products of Biodegradation :

The products of degradation are less toxic than the product itself.

Section 13 : Disposal Considerations

Waste Disposal :

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14 : Transport Information

DOT Classification : CLASS 3 : Flammable liquid.

UN : 2059

Identification : Nitrocellulose, solution

Special Provisions for Transport : Not available.

Section 15 : Other Regulatory Information

Other Classification :

WHMIS (Canada)

CLASS B-2 : Flammable liquid with a flash point lower than 37.8°C (100°F)

CLASS D-2A : Material causing other toxic effects (VERY TOXIC).

DSCL (EEC) :

R11 – Highly flammable.

R19 – May form explosive peroxides.

R22 – Harmful if swallowed.

S2 – Keep out of the reach of children.

S46 – If swallowed, seek medical advice immediately and show this container or label

HMIS (U.S.A) :

Health Hazard : 2

Fire Hazard : 4

Reactivity : 3

Personal Protection : h

National Fire Protection Association (U.S.A) :

Health : 1

Flammability : 4

Reactivity : 0

Special Hazard :

Protective Equipment :

Gloves, Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

Section 16 : Other Information

References : Not available.