



- MILAN BLAGOJEVIĆ - NAMENSKA -

Radnička b.b., Lucani, 32240, Serbia and Montenegro

Product Safety Data Sheet

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1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY

PRODUCT: Industrial Nitrocellulose wetted with alcohol (UN2556) or water (UN2555)

USE Industrial Nitrocellulose is used as a binder and or film former in the manufacture of coatings, inks and ancillary printing materials and paints.

MANUFACTURER: Preduzeće "Milan Blagojević – Namenska"

ADDRESS: Radnička bb
32240 Lučani
Serbia & Montenegro

Telephone: +381 32 817-539; 818-321;

Fax: +381 32 818-058; 817-814;

Emergency Telephone Number (24Hour): +381 32 817 772

2. COMPOSITION/INFORMATION ON INGREDIENTS

	%	CAS No	EC Number	Index No
Nitrocellulose (cellulose nitrate) (<12.3 % N)	65-75	9004-70-0	Not applicable	603-037-01-3
With Ethyl alcohol	25-35	64-17-5	200-578-6	603-002-00-5
or Isopropyl alcohol	25-35	67-63-0	200-661-7	603-117-00-0
or Water	25-35	7732-18-5	Not applicable	-
or n-Butanol	25-35	71-36-3	200-751-6	-

	Hazard Symbol	R Phases
Nitrocellulose (cellulose nitrate) (<12.3 % N)	F	R11 Highly flammable
Ethyl alcohol	F	R11 Highly flammable
Isopropyl alcohol	F, Xi	R11 Highly flammable R36 Irritating to eyes R36 Irritating to respiratory sistem R36 Irritating to skin R67 Vapours may cause drowsiness and dizziness
n-Butanol	Xn	R10 Flammable R20 Harmful by inhalation S16 Keep Away from Sources of Ignition - No Smoking.

3. HAZARDS IDENTIFICATION

Nitrocellulose can be ignited by flame, heat, shock, impact, friction, sparks or static electricity.

The wetting agent may cause eye, skin and respiratory tract irritation; overexposure to vapour may produce dizziness, drowsiness or even unconsciousness.

Burning nitrocellulose will produce toxic fumes.

4. FIRST-AID MEASURES

Inhalation of Vapour & Materials of Combustion:	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
Skin Contact:	Immediately flush skin with plenty of water. Remove contaminated clothing. Call a physician if irritation persists. Wash clothing before reuse.
Eye Contact:	Immediately flush eyes with an eye-wash-solution or plenty of water, holding the eyelids apart, for at least 10 minutes. Call a physician.
Ingestions:	Do not induce vomiting. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

5. FIRE-FIGHTING MEASURES

Burning nitrocellulose can only be extinguished by large quantities of water applied as mist or spray.

Drum lids can be blown off.

Fumes emitted from burning nitrocellulose may contain toxic nitrous gases.

Fire-fighters must work from the windward side and should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes.

After the fire is extinguished material may be unstable and could re-ignite by itself. Therefore ensure residual material is thoroughly wetted.

6. ACCIDENTAL RELEASE MEASURES (SPILLAGES)

Remove sources of ignition. No smoking!

Ensure sufficient ventilation or fresh air.

Avoid contact with eyes or skin.

Avoid inhalation of vapours.

Wear suitable protective equipment/clothing. Check with the PPE manufacturer.

Tools used with nitrocellulose should be non-ferrous materials such as copper or brass or wood i.e. non-sparking.

Spilled nitrocellulose must be thoroughly wetted with plenty of water, swept up carefully and kept in tightly closed watertight container.

Prevent spilled nitrocellulose from contaminating water courses, sewers, soil or vegetation.

7. HANDLING & STORAGE

Handling

Do not drop, slide, roll or bang the drums.

Keep away from flame, heat, shock, impact, friction, sparks or static electricity.

Do not allow wetted nitrocellulose to dry out.

Ensure adequate ventilation.

Pull polyethylene liner, if present, carefully down over the outside of the container. Ensure package is completely grounded /earthed during emptying.

Tools used with nitrocellulose should be of non-ferrous materials such as copper, brass or wood. Tools made of plastic material must not be used because of their tendency to produce static electricity.

Avoid contact with strong alkaline and acidic materials, amines or oxidising agents.

Keep quantity of product in the processing area to a minimum. This would not be expected to exceed the amount necessary for one shift.

Storage

Store in a cool and well ventilated place appropriate to the packaging material. Keep in original containers. Maximum recommended continuous storage temperature is 40° C.

Keep away from heat including direct sunlight, flame or any source of ignition.

Pallet loads should be stacked no more than **two** high.

Nitrocellulose is not to be stored together with incompatible materials for instance strong alkaline and acidic materials, amines or oxidising agents.

Rotate inventory on a "First in/first out" basis.

The recommended shelf life of two years from month of manufacture, for unopened packages, should not be exceeded.

Once a package has been opened, the entire contents should be used as quickly as possible.

Do not open or empty containers within the storage area.

The storage should be in accordance with national state and local environmental regulations.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:

	Long Term Exposure Limit (8 hour TWA) mgm⁻³	Short Term Exposure Limit (15 min ref) mgm⁻³
Ethyl alcohol	1920	-
Isopropyl alcohol	999	1250
n- buthanol		

Concentration of solvent in the workplace atmosphere should be monitored. Ensure good ventilation or use local exhaust to maintain ambient vapour concentrations below the exposure limits.

Employee Protection Recommendations:

Respiratory protection: - Where suitable engineering controls are not fitted or are inadequate wear suitable respiration equipment e.g. an approved organic vapour respirator.

Hand protection: - Wear solvent resistant gloves. Butyl rubber has been shown to be effective against heavy exposure to both IPA and ethanol, with a breakthrough time in excess of 8 hours.

Eye protection: - Protective goggles and/or full face shield.

Skin protection: - Non-flammable, antistatic protective clothing antistatic protective shoes.

It should be noted that glove performance can vary widely and it is recommended that appropriate advice on the selection of gloves and other PPE is obtained from the PPE manufacturer.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	granular/chip		
Colour:	white		
Odour:	of wetting alcohols		
Bulk density:	500-600 Kg/m ³		
Specific Gravity	1.4 (Solvent Damped) 1.66 (Dried Chip)		
Vapour pressure of the wetting alcohol at 20°C	ethanol = 58.1 mbar	isopropanol = 41.6 mbar	
Viscosity:	not applicable		
Solubility in water:	NC is soluble in esters, ketones and glycol ethers. Alcohols are completely miscible with water.		
Flash point of the wetting agent (Abel-Pensky)	ethanol = 12°C	isopropanol = 12°C	
Explosion limits (of wetting alcohol):		lower limit	upper limit
	ethanol	3.5 % -vol	15.0 % -vol
	isopropanol	2.0 % -vol	12.0 % -vol
	n-buthanol	1.4% -vol	11.3%/vol
Decomposition temperature:	higher than 180°C		

10. STABILITY AND REACTIVITY

Stability: Stable under recommended storage and handling conditions.

Conditions to Avoid: Avoid exposure to heat, shock and friction. Stability decreases and deterioration starts with increasing temperatures. Observe recommended storage conditions.

Materials to Avoid: Nitrocellulose decomposes when in contact with strong alkaline and acidic materials, amines or oxidizing agents.

Hazardous Decomposition Products: CO, CO₂, oxides of nitrogen and other potentially toxic fumes.

11. TOXICITY DATA

Nitrocellulose has been in use for many years with no evidence of adverse effects. The toxicity is dependant on the wetting agent.

	Ethanol	Isopropanol	Nitrocellulose
Oral LD50, Rat	6200	5045	> 5000 mg/kg
Inhalation LD50, Rat	> 8000 mg/l	16,000 ppm 8hr	-
Dermal Rabbit	> 20000	12800 mg/kg	-
Eye Contact	Irritant	Irritant	Not Irritating
Skin Contact	Not Irritating	Irritant	Not Irritating

12. ECOLOGY DATA

There is no evidence to suggest that nitrocellulose has any detrimental effect on the environment.

See data below for details of wetting agent environmental toxicity.

		Ethanol	Isopropanol	Nitrocellulose
1.	Fish toxicity LC50 96 hr (Fathead minnow)	13480	10400 mg/l	>10,000 mg/l
2.	Bacteria toxicity EC50	6500	1,050 mg/l	>1000 mg/l
3.	Chemical oxygen demand (COD)	2.0	2.22 mg/mg	-
4.	Biochemical oxygen demand (BOD ₅)	1.46	1.72 mg/l	-
5.	Degradability	94%	99.0%	Resistant to degradation
6.	Water pollution class (WGK)	1	1	Not Hazardous
7.	Bioaccumulation	Low	Low	Nil
8.	Log (Pow)	-0.32	0.05	-

13. DISPOSAL CONSIDERATIONS

Product disposal

It is recommended that small quantities of nitrocellulose should be dissolved prior to destruction as waste NC-lacquer.

Alternatively destroy by burning small quantities outside at a safe place in an open fire under competent control. Ignite remotely.

Waste disposal should be in accordance with national, state and local environmental regulations.

Container disposal

Empty container retains hazardous residue. Observe all label precautions. Keep away from heat, sparks and flames. Do not weld or use cutting torch on or near container.

Do not distribute, make available, furnish or reuse empty container except for storage and shipment of original product.

Remove all hazardous residue from container eg. Wiping with damp rag: cleaning should include inside of lid and closure ring. (Dispose of rag as for spilled nitrocellulose).

Remove or erase all labels. Then offer container for recycling/reconditioning or puncture or otherwise destroy empty container and dispose of in facility permitted for non hazardous waste.

14. TRANSPORTATION

Proper Shipping Name	UN No	Packing Groups	Hazard Class
Nitrocellulose with alcohol	2556	II	4.1
Nitrocellulose with water	2555	II	4.1

ADR / RID

Proper Shipping Name	Substance Identification No	Hazard Class	Packing Group	Classification Code
Nitrocellulose with alcohol	2556	4.1	II	D
Nitrocellulose with water	2555	4.1	II	D

IATA/IMDG

Proper Shipping Name	UN No	Packing Groups	Hazard Class	Marine Pollutant
Nitrocellulose with alcohol	2556	II	4.1	No
Nitrocellulose with water	2555	II	4.1	No

15. REGULATORY INFORMATION

ETHANOL AND WATER WET

EEC Classification: Flammable
Hazard Symbol: F
Risk Phrases: R11 Highly Flammable
Safety Phrases: S7 Keep Container tightly closed
S16 Keep Away from Sources of Ignition - No Smoking.
S33 Take Precautionary Measures Against Static Discharge.
S37/39 Wear Suitable Gloves and Eye/Face Protection.

ISOPROPANOL WET

EEC Classification: Flammable, irritant
Hazard Symbol: F, Xi
Risk Phrases: R11 Highly Flammable
R36 Irritating to eyes
R67 Vapours may cause drowsiness and dizziness
Safety Phrases: S7 Keep Container tightly closed
S16 Keep Away from Sources of Ignition - No Smoking.
S24/25 Avoid contact with skin and eyes
S26 In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S33 Take Precautionary Measures Against Static Discharge.
S37/39 Wear Suitable Gloves and Eye/Face Protection.

N-BUTHANOL WET

EEC Classification:
Hazard Symbol: Xn
Risk Phrases: R10 Flammable
R20 Harmful by inhalation
Safety Phrases: S16 Keep Away from Sources of Ignition - No Smoking

16. OTHER INFORMATION

The technical information provided in this safety data sheet should only be used for the purposes of assessing hazards with respect to safety or the environment. It should not be used as a technical specification or for engineering calculations.

Information in this document is believed to be accurate and is given in good faith but it is for the customer to satisfy itself of the suitability for its own particular purpose. The information provided is intended to describe the product for the purposes of health, safety and environmental requirements only. It is not intend and should not be construed as a warranty.

Enterprise MILAN BLAGOJEVIC – NAMENSKA should be consult for further information.