

## Chemical Safety Data Sheet MSDS / SDS

## Nitrocellulose

Revision Date:2026-05-31 Revision Number:1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

## Product identifier

Product name : Nitrocellulose  
CBnumber : CB6781086  
CAS : 9004-70-0  
EINECS Number : 933-629-2  
Synonyms : Nitrocellulose, Cellulose Nitrate

## Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

## Company Identification

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 010-86108875

## SECTION 2: Hazards identification

## GHS Label elements, including precautionary statements

Symbol(GHS)



Signal word

Warning

## Precautionary statements

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

## Hazard statements

H226 Flammable liquid and vapour

## SECTION 3: Composition/information on ingredients

## Substance

|              |                                     |
|--------------|-------------------------------------|
| Product name | : Nitrocellulose                    |
| Synonyms     | : Nitrocellulose, Cellulose Nitrate |
| CAS          | : 9004-70-0                         |
| EC number    | : 933-629-2                         |
| MF           | : C24H36N8O38                       |
| MW           | : 1044.57                           |

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## SECTION 4: First aid measures

### General advice

Show this material safety data sheet to the doctor in attendance.

### If inhaled

After inhalation: fresh air.

### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

### In case of eye contact

After eye contact: rinse out with plenty of water. Remove contact lenses.

### If swallowed

After swallowing: immediately make victim drink water (two glasses at most).

### Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

### Protection of first-aiders

For personal protection see section 8.

### Notes to physician

No data available

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## SECTION 5: Firefighting measures

### Suitable extinguishing media

Foam Carbon dioxide (CO<sub>2</sub>) Dry powder

### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

## Specific hazards during fire fighting

Combustible. Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air at elevated temperatures. Development of hazardous combustion gases or vapours possible in the event of fire.

## Hazardous combustion products

Carbon oxides Nitrogen oxides (NOx)

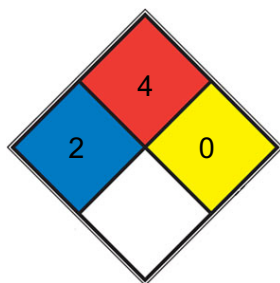
## Specific extinguishing methods

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

## Special protective equipment for fire-fighters

In the event of fire, wear self-contained breathing apparatus.

## NFPA 704



HEALTH 2 Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury (e.g. [diethyl ether](#), ammonium phosphate, iodine)

FIRE 4 Will rapidly or completely vaporize at normal atmospheric pressure and temperature, or is readily dispersed in air and will burn readily. Includes pyrophoric substances. Flash point below room temperature at 22.8 °C (73 °F). (e.g. acetylene, propane, [hydrogen gas](#))

REACT 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium, [N<sub>2</sub>](#))

SPEC.

HAZ.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for emergency responders: For personal protection see section 8.

### Environmental precautions

Do not let product enter drains. Risk of explosion.

### Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent  
Chemical Book

material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

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## SECTION 7: Handling and storage

### Handling

#### Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

### Storage

#### Further information on storage conditions

Keep container tightly closed in a dry and wellventilated place. Keep away from heat and sources of ignition.

#### Storage class

3, Flammable liquids

#### Recommended storage temperature

Recommended storage temperature see product label.

#### Further information on storage stability

Light sensitive.

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## SECTION 8: Exposure controls/personal protection

### control parameter

#### Hazard composition and occupational exposure limits

Does not contain substances with occupational exposure limits.

### Engineering measures

No data available

### Personal protective equipment

#### Respiratory protection

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

#### Recommended Filter type

Filter type ABEK

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

#### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Safety glasses

#### Skin and body protection

Flame retardant antistatic protective clothing.

#### Hand protection

**Material**

butyl-rubber

**Break through time**

120 min

**Glove thickness**

0.3 mm

**Protective index**

Splash contact

**Manufacturer**

Butoject® (KCL 897 / Aldrich Z677647, Size M)

**Manufacturer**

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

**Remarks**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it. If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

**Hygiene measures**

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

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## SECTION 9: Physical and chemical properties

**Information on basic physicochemical properties**

liquid

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**Color**

Clear colorless to light yellow

**Odor**

No data available

**Odor Threshold**

No data available

**pH**

pH(25°C):4.0~8.0

**Melting point/ range**

No data available

**Boiling point/boiling range**

83 °C(lit.)

**Flash point**

38 °C

**Evaporation rate**

No data available

**Flammability (solid, gas)**

No data available

**Flammability (liquids)**

No data available

**Burning rate**

No data available

**Upper explosion limit / Upper flammability limit**

1.7-36% (v/v)

**Lower explosion limit / Lower flammability limit**

1.7-36% (v/v)

**Vapor pressure**

576 hPa ( 20 °C)

**Relative vapor density**

No data available

**Relative density**

1.23 g/mL at 25 °C(lit.)

**Density**

1.23 g/mL at 25 °C(lit.)

**Water solubility**

No data available

**Partition coefficient: n-octanol/water**

No data available

**Autoignition temperature**

No data available

**Decomposition temperature**

No data available

**Viscosity, dynamic**

No data available

**Viscosity, kinematic**

No data available

**Flow time**

No data available

**Explosive properties**

Not classified as explosive.

**Oxidizing properties**

none

**Particle characteristics Particle size**

No data available

**Solubility**

esters, ketones, ether-alcohol mixtures (collodion) and glycol ethers: soluble

**Physical state**

Viscous Liquid

**Dielectric constant**

6.2 (Ambient)

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**SECTION 10: Stability and reactivity****Reactivity**

Vapor/air-mixtures are explosive at intense warming.

**Chemical stability**

The product is chemically stable under standard ambient conditions (room temperature) .

**Possibility of hazardous reactions**

No data available

**Conditions to avoid**

Heating.

**Incompatible materials**

No data available

**Hazardous decomposition products**

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Mixture Acute toxicity

Oral: No data available

Inhalation: No data available

Dermal: No data available

#### Skin corrosion/irritation

Remarks: Repeated exposure with the mixture may cause skin dryness or cracking.

#### Serious eye damage/eye irritation

Classified based on available data. For more details, see section 2

#### Respiratory or skin sensitization

Classified based on available data. For more details, see section 2

#### Germ cell mutagenicity

Classified based on available data. For more details, see section 2

#### Carcinogenicity

Classified based on available data. For more details, see section 2

#### Reproductive toxicity

Classified based on available data. For more details, see section 2

#### Specific target organ toxicity - single exposure

Classified based on available data. For more details, see section 2

#### Specific target organ toxicity - repeated exposure

Classified based on available data. For more details, see section 2

#### Aspiration hazard

Classified based on available data. For more details, see section 2

### 11.2 Additional Information

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately.

#### Components pentyl acetate

##### Acute toxicity

LD50 Oral - Rabbit - 7,400 mg/kg

Remarks: (RTECS)

Inhalation: No data available

Dermal: No data available

##### Skin corrosion/irritation

Remarks: No data available

##### Serious eye damage/eye irritation

Classified based on available data. For more details, see section 2

##### Respiratory or skin sensitization

Classified based on available data. For more details, see section 2

**Germ cell mutagenicity**

Classified based on available data. For more details, see section 2

**Carcinogenicity**

Classified based on available data. For more details, see section 2

**Reproductive toxicity**

Classified based on available data. For more details, see section 2

**Specific target organ toxicity - single exposure**

Classified based on available data. For more details, see section 2

**Specific target organ toxicity - repeated exposure**

Classified based on available data. For more details, see section 2

**Aspiration hazard**

Classified based on available data. For more details, see section 2

**cellulose nitrate Acute toxicity**

Oral: No data available

Inhalation: No data available

Dermal: No data available

**Skin corrosion/irritation**

Remarks: No data available

**Serious eye damage/eye irritation**

Remarks: No data available

**Respiratory or skin sensitization**

Classified based on available data. For more details, see section 2

**Germ cell mutagenicity**

Classified based on available data. For more details, see section 2

**Carcinogenicity**

Classified based on available data. For more details, see section 2

**Reproductive toxicity**

Classified based on available data. For more details, see section 2

**Specific target organ toxicity - single exposure**

Classified based on available data. For more details, see section 2

**Specific target organ toxicity - repeated exposure**

Classified based on available data. For more details, see section 2

**Aspiration hazard**

Classified based on available data. For more details, see section 2

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## SECTION 12: Ecological information

**Ecotoxicity****Components:****pentyl acetate:****Toxicity to fish**

LC50 (Gambusia affinis (Mosquito fish)): 65 mg/l Exposure time: 96 h Remarks: (ECOTOX Database)

## **Ecotoxicology Assessment**

### **Chronic aquatic toxicity**

This product has no known ecotoxicological effects.

### **cellulose nitrate:**

#### **Toxicity to fish**

Remarks: No data available

### **Persistence and degradability**

#### **Components:**

### **cellulose nitrate:**

#### **Biodegradability**

Remarks: No data available

### **Bioaccumulative potential**

#### **Components:**

### **cellulose nitrate:**

#### **Bioaccumulation**

Remarks: No data available

### **Mobility in soil**

#### **Components:**

### **cellulose nitrate:**

#### **Stability in soil**

Remarks: No data available

### **Other adverse effects**

#### **Components:**

### **cellulose nitrate:**

#### **Additional ecological information**

No data available

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## **SECTION 13: Disposal considerations**

### **Disposal methods**

## Waste from residues

Offer surplus and non-recyclable solutions to a licensed disposal company.

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# SECTION 14: Transport information

## International Regulations

### IATA-DGR

UN/ID No. : UN 2059

Proper shipping name : Nitrocellulose solution, flammable

Class : 3

Packing group : II

Labels : Class 3 - Flammable liquids

Packing instruction (cargo aircraft) : 364

Packing instruction (passenger aircraft) : 353

### IMDG-Code

UN number : UN 2059

Proper shipping name : NITROCELLULOSE SOLUTION, FLAMMABLE

Class : 3

Packing group : II

Labels : 3

EmS Code : F-E, S-D

Marine pollutant : no

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National regulation GB 6944/12268

UN number : UN 2059

Proper shipping name : NITROCELLULOSE SOLUTION, FLAMMABLE

Class : 3

Packing group : II

Labels : 3

### Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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# SECTION 15: Regulatory information

## National regulatory information

## **Law on the Prevention and Control of Occupational Diseases**

## **Regulations on Safety Management of Hazardous Chemicals**

### **Catalogue of Hazardous Chemicals**

Identification of Major Hazard Installations for Hazardous Chemicals (GB 18218)

### **No. / Code Chemical name / Category Threshold quantity**

**W5.4 Flammable liquids 5,000 t**

### **Hazardous Chemicals for Priority Management**

under SAWS

### **Catalogue of Specially Controlled Hazardous**

Listed Chemicals

### **List of Explosive Precursors**

Listed

## **Regulation of Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals**

### **China Severely Restricted Toxic Chemicals for Import and Export**

Regulation on the Administration of Precursor Chemicals

### **Catalogue and Classification of Precursor Chemicals**

Not listed

### **Regulations on the Administration of Controlled Chemicals**

### **List of Controlled Chemicals**

Not listed

### **Regulations of Ozone Depleting Substances Management**

### **List of Controlled Ozone Depleting Substances**

Not listed

### **List of Controlled Ozone Depleting Substances Import and Export**

Not listed

## **Environmental Protection Law**

### **List of Priority Controlled Chemicals**

Not listed

## List of Key Controlled New Pollutants

Not listed

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## SECTION 16: Other information

### Full text of other abbreviations

#### ACGIH

USA. ACGIH Threshold Limit Values (TLV)

#### GBZ 2.1-2007

Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.

#### ACGIH / TWA

8-hour, time-weighted average

#### ACGIH / STEL

Short-term exposure limit

#### GBZ 2.1-2007 / PC-TWA

Permissible concentration - time weighted average

**GBZ 2.1-2007 / PC-STEL AIC - Australian Invent Transport by Land of Bra bw - Body weight; CMR Standard of the German List (Canada); ECx - Conc associated with x% respo Chemical Substances (Jap response; ERG - Emerge GLP - Good Laboratory P cer; IATA - International Construction and Equipm Half maximal inhibitory c tion; IECSC - Inventory o tional Maritime Dangerou Industrial Safety and H Standardization; KECl - K tration to 50 % of a test (Median Lethal Dose); MA lution from Ships; n.o.s. No Observed (Adverse) E fect Level; NOELR - No Norm; NTP - National Toxi icals; OECD - Organizatio fice of Chemical Safety a and Toxic substance; PIC stances; (Q)SAR - (Quant (EC) No 1907/2006 of th Registration, Evaluation, Accelerating Decompositi Chemical Substance Inve Thailand Existing Chemica States); UN - United Nat Transport of Dangerous WHMIS - Workplace Hazar**

Permissible concentration - short term exposure limit ry of Industrial Chemicals

ANTT - National Agency for il

ASTM - American Society for the Testing of Materials

- Carcinogen, Mutagen or Reproductive Toxicant

DIN nstitute for Standardisation

DSL - Domestic Substances ntration associated with x% response

ELx - Loading rate se

EmS - Emergency Schedule

ENCS - Existing and New n)

ErCx - Concentration associated with x% growth rate cy Response Guide

GHS - Globally Harmonized System

actice

IARC - International Agency for Research on Canir Transport Association

IBC - International Code for the nt of Ships carrying Dangerous Chemicals in Bulk

IC50 ncentration

ICAO - International Civil Aviation Organiza- Existing Chemical Substances in China

IMDG - Interna- Goods

IMO - International Maritime Organization

ISHL alth Law (Japan)

ISO - International Organisation for Existing Chemicals Inventory  
LC50 - Lethal Concentration  
LD50 - Lethal Dose to 50% of a test population  
POL - International Convention for the Prevention of Pollution from Ships - Not Otherwise Specified  
NCh - Chilean Norm  
NO(A)EC - No Observed Effect Concentration  
NO(A)EL - No Observed (Adverse) Effect Loading Rate  
NOM - Official Mexican Nomenclature Program  
NZIoC - New Zealand Inventory of Chemicals for Economic Co-operation and Development  
OPPTS - Office of Pollution Prevention and Control  
PBT - Persistent, Bioaccumulative and Toxic - Philippines Inventory of Chemicals and Chemical Substances  
Structure Activity Relationship  
REACH - Regulation of the European Parliament and of the Council concerning the Restriction of Chemicals  
SADT - Self-Heating Temperature  
SDS - Safety Data Sheet  
TCSI - Taiwan Chemical Safety Information  
TDG - Transportation of Dangerous Goods  
TECS Inventory  
TSCA - Toxic Substances Control Act (United States)  
UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods  
vPvB - Very Persistent and Very Bioaccumulative  
GHS - Global Harmonized System of Classification and Labelling of Chemicals  
HMIS - Hazardous Materials Information System

**Disclaimer:**

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.