NJ Health New Jersey Department of Health

Right to Know Hazardous Substance Fact Sheet

Emergency Responders Quick Reference

Common Name: **NITROCELLULOSE**

Synonyms: Collodion; Cellulose Nitrate Solution; Pyroxylin Solution
CAS No: 9004-70-0
Molecular Formula: Varies
RTK Substance No: 1366
Description: White, granular chip or fibrous material, which is usually in a water or alcohol solution

HAZARD DATA

Hazard Rating

2 - Health
3 - Fire (*Nitrocellulose*)
4 - Fire (*Collodion*)
3 - Reactivity (Nitrocellulose)
0 - Reactivity (*Collodion*)

DOT#:
UN 2556 (*Solid*)
UN 2059 (*Solution*)

ERG Guide #:
113 (*Solid*)
127 (*Solution*)

Hazard Class:
4.1 (Flammable solid)
3 (Flammable liquid)

Firefighting

Nitrocellulose is a FLAMMABLE LIQUID, or an EXPLOSIVE when dry, and can be ignited or exploded with HEAT, SPARKS, or FRICTION.

For **Nitrocellulose** *in solution*, use dry chemical or CO_2 as extinguishing agents.

For *dry* **Nitrocellulose**, use water spray or fog.

POISONOUS GASES ARE PRODUCED IN FIRE, including *Nitrogen Oxides* and *Hydrogen Cyanides*.

CONTAINERS MAY EXPLODE IN FIRE.

Use water spray to keep fire-exposed containers cool.

Reactivity

Nitrocellulose, when dry, is shock sensitive and can ignite spontaneously and explode when exposed to HEAT; FLAMES; IGNITION SOURCES; AIR; SUNLIGHT or OXIDIZING AGENTS (such as PERCHLORATES, PEROXIDES, PERMANGANATES, CHLORATES, NITRATES, CHLORINE, BROMINE and FLUORINE).

Nitrocellulose is not compatible with ACETYL PEROXIDE; BROMOAZIDE; STRONG ACIDS (such as HYDROCHLORIC, SULFURIC and NITRIC); STRONG BASES (such as SODIUM HYDROXIDE and POTASSIUM HYDROXIDE); METALS; METAL SALTS; METAL OXIDES; and AMINES.

Nitrocellulose attacks some RUBBER, COATINGS and PLASTICS.

Nitrocellulose may accumulate static electricity when being filled into properly grounded containers.

SPILL/LEAKS

Isolation Distance:

Small Spill: 100 meters (330 feet)

Large Spill: 500 meters (1/3 mile)

Fire: 800 meters (1/2 mile)

Absorb liquids in dry sand, earth, or a similar material and place into sealed containers for disposal.

For *dry* **Nitrocellulose**, thoroughly wet with water, sweep-up, and place into tightly closed, water tight containers.

Keep **Nitrocellulose** out of confined spaces, such as sewers, because of the possibility of an explosion.

Use only non-sparking tools and equipment, especially when opening and closing containers of **Nitrocellulose**.

PHYSICAL PROPERTIES

Odor Threshold:	Odorless to *Ether* or *Alcohol*-like
Flash Point:	55°F (13°C) (*Solid*) <0°F (<-18°C) (*Solution*)
LEL:	1.9% (*Solution*)
UEL:	48% (*Solution*)
Auto Ignition Temp:	338°F (170°C) (*Solution*)
Vapor Density:	2.6 (*Solution*) air = 1
Specific Gravity:	1.66 (*Solid*) 0.8 (*Solution*) (water = 1)
Boiling Point:	95°F (35°C) (*Solution*)
Molecular Weight:	459 to 594

EXPOSURE LIMITS

The Protective Action Criteria values are:

PAC-1 = 60 mg/m^3
PAC-2 = 400 mg/m^3
PAC-3 = 500 mg/m^3

PROTECTIVE EQUIPMENT

Gloves:	SilverShield®/4H® and Barrier® (>8-hr breakthrough for *Nitro compounds* and *Ethyl Ether*)
Coveralls:	Tychem® Responder and Trellchem VPS (>8-hr breakthrough for *Nitro compounds* and *Ethyl Ether*)
	(Use safety shoes with antistatic base and flash protection at >10% of the LEL)
Respirator:	SCBA

HEALTH EFFECTS

Eyes:	Irritation
Skin:	Irritation
Inhalation:	Nose and throat irritation
	Headache, dizziness, difficulty breathing and loss of consciousness

FIRST AID AND DECONTAMINATION

Remove the person from exposure.
Flush eyes with large amounts of water for at least 15 minutes. Remove contact lenses if worn.
Remove contaminated clothing and wash contaminated skin with soap and water.
Begin artificial respiration if breathing has stopped and CPR if necessary.
Transfer promptly to a medical facility.