

Material Safety Data Sheet

VREDESTEIN TUBULAR CEMENT

SECTION 1 PRODUCT IDENTIFICATION

COMMERCIAL NAME: VREDESTEIN TUBULAR CEMENT

CHEMICAL NAME: -

USAGE: CEMENT FOR TUBULAR GLUING

DISTRIBUTOR:

APOLLO VREDESTEIN B.V.
IR. E.L.C. SCHIFF STRAAT 370
7547 RD ENSCHEDE
THE NETHERLANDS

Tel.: +31-(0)53- 4 888 888

Email: bike@apollovredestein.com

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

Name	CAS No.	Percentage by Weight
Natural Rubber	N/A	60 – 80 %
Resin	N/A	5 – 10 %
Rubber Solvent (N-HEXANE)	64742-89-8	10-30 %

SECTION 3 HAZARDS IDENTIFICATION

Safety Hazards : Slightly Flammable

Human Health Hazards : May cause lung damage if swallowed. Irritating to skin. Vapors may cause dizziness.

SECTION 4 FIRST AID MEASURES

EYE CONTACT : Immediately flush eyes with large amount of water until irritation subsides. Lf irritation persists, get medical attention.

SKIN CONTACT : Remove contaminated clothing and was skin with plenty of water and soap.

INHALATION : If aerosol or vapor is inhaled in high concentrations, More affect individual to fresh air keep him warm, let him rest. If there is difficulty in breathing, transport to nearest medical facility.

SWALLOWING : Do not induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration and transport to nearest medical facility for additional treatment.

SECTION 5 FIRE – FIGHTING MEASURES

Upper flammable limit (UFL) : Not determined

Lower flammable limit (LFL) : Not determined

General fire hazards

Down-wind personnel must be evacuated. Do not reseal contaminated container; a chemical reaction generating carbon dioxide gas pressure may occur resulting in rupture of the container. Dense smoke is emitted when product is burned without sufficient oxygen. When using water spray, boil-over may occur when product temperature reach the boiling point of water, and the reaction forming carbon dioxide will accelerate. MDI vapor and other gases may be generated by thermal decomposition.

Special hazard in fire

In case of fire, formation of carbon monoxide, carbon dioxide, nitrogen oxide, isocyanate vapor and traces of hydrogen cyanide is possible.

Extinguishing Media

Carbon dioxide, dry power, and foam. In cases of large scale fires, alcohol-resistant foams are preferred. If water is used, it should be used in very large quantities. The reaction between water and isocyanate may be vigorous.

Required special protective equipment for fire-fighters

Fire fighters should wear full-face, self-contained breathing apparatus and impervious protective clothing. Fire fighters should avoid inhaling any combustion product.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautionary measures

- Wear personal protective equipment during clean up.
- Keep unauthorized persons away.
- Keep away from sources of ignition. Do not smoke.
- Avoid contact with skin and eyes.
- Avoid formation of dust.
- If the limits at the workplace are exceeded and/or larger amounts are released the indicated respiratory.

SECTION 7 HANDLING AND STORAGE

Handling

Directions for safe handling: ensure suitable suction/aeration at the workplace and with operational machinery. Take precautionary measures against static discharges, directions on fire and explosion safety, highly inflammable.

Caution – electrostatic charge may occur. Keep away from sources of ignition. Do not smoke.

Ensure there are sufficient retaining facilities for water used to extinguish fire. Avoid contact with eyes, skin, or clothing. Wash thoroughly after handling. Do not store or consume food, drink, or tobacco in areas where they may become contaminated with the material.

Storage

- Storage Temperature (°C) : Ambient
- Storage Pressure : Atmospheric
- Loading Temperature (°C) : Ambient
- Keep container tightly closed, storage in a well-ventilated place.

SECTION 8 EXPLOSURE CONTROLS AND PERSONAL PROTECTION

Respiratory Protection (Specify Type) : Not needed

Ventilation :

Local Exhaust	:	Yes
Mechanical (General)	:	None
Special	:	n/a
Other	:	n/a
Protective Gloves	:	To avoid long-term exposure.
Eye Protection	:	None
Other Protective Clothing or Equipment	:	None
Work/Hygienic Practices	:	Normal hygienic practices.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

1. SPECIFIC GRAVITY - 0.435 g/cm	5. EVAPORATION RATE (n-Bu Acetate=1) - 6.4
2. VISCOSITY (measured by Brookfield at 25°C) 10,000 – 11,000 cps	6. BOILING POINT - 77-96°C
3. COLOUR / ODOUR - yellowish / light smell	7. Heat of Vaporization @ Boiling & 1 atm. 328.00 kJ/kg
4. SOLUBILITY IN WATER - Less than 0.10 %	8. Is the Material Hygroscopic? NO

SECTION 10 STABILITY AND REACTIVITY

Stability : Stable under normal condition.

This product is stable and hazardous polymerization will not occur.

- Condition to avoid instability : not applicable.
- Condition to avoid hazardous polymerization : not applicable.
- Material and condition to avoid incompatibility : strong oxidizing agents.
- Hazardous decomposition products : none.

SECTION 11 TOXICOLOGICAL INFORMATION

Acute Toxicity

- Acute Oral Toxicity LD50 rat : > 2,000 mg/kg
- Acute Inhalation Toxicity LC50 rat :> 20 mg/ ¼ hours
- Skin Irritation rabbit, slight irritant
- Inhalation Over-exposure may cause irritating effects on nose throat and respiratory tract.
- Skin contact Prolonged or repeated contact may result in tanning and irritation effects
- Eye contact Over-exposure may cause irritating effects on eyes

SECTION 12 ECOLOGICAL INFORMATION

Do not throw any residue down drains.

SECTION 13 DISPOSAL CONSIDERATIONS

The product remnants are classified as chemical waste. Dispose of waste according to Local, State, Federal, and Provincial Environmental Regulations.

SECTION 14 TRANSPORTATION INFORMATION

Land transport (ADRI RID)

ADR class	not restricted	ADR item number	not relevant
RID class	not restricted	RID item number	not relevant
Hazard Identification No.	not relevant	Substance Identification No.	not relevant
TREM-Card	not relevant	UN number	none
Proper shipping name	not relevant		

Sea transport (IMDG-codel IMO)

IMO/IMDG code	not restricted	Class	not restricted
Packing group	not relevant	UN number	none
EMS	not relevant	MFAG	no
Proper shipping name	not relevant		

Air transport (ICAO-TII IATA-DGR)

ICAO-TI/IATA-DGR			
Class	not restricted	Packing group	not relevant
Proper shipping name	not relevant		

SECTION 15 REGULATORY INFORMATION

Council Directive 67/548/EEC(Classification, packaging and labeling of dangerous substances) and subsequent amendments. Commission Directive 1999/45/CE (Classification, packaging and labeling of dangerous preparation) and subsequent amendments. Commission Directive 2001/58/CE(Safety data sheets). Commission Directive 98/24//CE (Protection of the health and safety of workers from the risk related to chemical agent). Commission Directive 2000/39/CE(Occupational exposure limit values).

S Phrases : S2 Keep out of reach of children.
S9 Keep container in a well-ventilated place.
S16 Keep away from sources of ignition – No smoking.

Special Provisions :

Pressurized container. Protect from sunlight and do not expose to temperatures $\geq 50^{\circ}$ C.
Do not pierce or burn, even after use.

Keep away from sources of ignition – No smoking. Keep out of reach of children.

Where applicable, refer to the following regulatory provision :

Directive 2003/105/CE (Activities linked to risks of serious accidents).

SECTION 16 OTHER INFORMATION

Not applicable