

1. Identification of the substance/ preparation and of the company / undertaking

Trade name: Fordyn

Use of the preparation: Explosive for civil use.

Manufacturer: OY FORCIT AB
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FINLAND

Emergency telephone: Tel. +358-19-22001, Fax +358-19-2486591

2. Hazards identification

Classification of mixture: E; R2; T+; R26/27/28; R33

Hazards: Risk of explosion by shock, friction, fire or other sources of ignition. Very toxic by inhalation, if swallowed and in contact with skin. Danger of cumulative effects. Information about toxicity is mainly relevant for product without a cartridge.

3. Composition and information on ingredients

Definition: Ethylene glycol dinitrate based ammoniumnitrate explosive.

Hazardous ingredients: Ethylene glycol dinitrate, cellulose nitrate, ammoniumnitrate.

Name of ingredient:	Content :	CAS-#:	Code letters; R-phrases:
Ethylene glycol dinitrate	30-35 %	628-96-6	E, T+; R2-26/27/28-33
Cellulose nitrate	< 2 %	9004-70-0	F; R11
Ammoniumnitrate	50-60 %	6484-52-2	O; R5-9

4. First aid measures

Inhalation:	Medical help necessary in case of symptoms, e.g. irritation of the respiratory tract, which are directly related to the inhalation of dust, vapours or combustion gases. Bring victim to fresh air as quickly as possible, and contact a doctor. If the person is unconscious hold and transport in side position. Give oxygen if necessary. If breathing stops apply artificial respiration. Symptoms do not necessarily appear immediately in persons who have inhaled combustion gases. Patients should be kept under medical observation for at least 48h.
Skin:	Wash off with water, consult a doctor if necessary.
Eyes:	Rinse with plenty of water, consult a doctor if necessary.
Ingestion:	Flush mouth with plenty of water; consult a doctor.

5. Fire fighting measures

General:	Fight adjacent fire with all available means to prevent fire from reaching the product. If fire is about to reach the product or the product is burning: Do not try to extinguish, risk of explosion. Immediately evacuate danger zone and warn neighborhood announcing risk of explosion.
Special exposure hazards in a fire:	In case of fire or heat toxic/harmful gases, vapours and pyrolysis products may be formed of the substance, e.g. nitrogen oxides (nitrous gases), Carbon monoxide and Ammonia. Explosion hazard. Danger of toxic lung oedema formation.

6. Accidental release measures

Personal precautions:	Avoid skin contact with the uncartridged preparation. Make sure there is adequate ventilation, or use a respiratory protection mask if necessary.
Environmental precautions:	Prevent substance from soaking into soil, waters and drains.
Methods for cleaning up:	Collect scattered cartridges by hand, spilled explosive mass with suitable non-sparking tools. Fill into marked sealable containers; dispose of as required by the authorities.

7. Handling and storage

Handling:	Ensure that the room is well ventilated. Keep away from heat and ignition sources. Do not smoke. Avoid mechanical stress and use non-sparking tools.
Storage:	Keep articles dry, cool and locked up.
Special measures:	National regulations must be followed with handling and storage.

8. Exposure controls / personal protection

Limit values for occupational safety:	Ethylene Glycol Dinitrate HTP values: 8 hours 0,6 mg/m ³ 15 min 2 mg/m ³ (Finnish values)
Protection from exposure:	If exceeding of air limit values cannot be avoided use a respiratory protection mask with filter A 2. The use of gloves and protective goggles is not necessary if substance is cartridged or packed. Always wash hands before breaks and at the end of work.

9. Physical and chemical properties

Physical state:	Gelatinous mass, in cartridges of waxed paper or plastic film
Colour:	Yellowish
Odor:	Strong, characteristic odor
Melting point:	-
Thermal decomposition:	160 °C (BAM)
Risk of explosion:	Strong shock, friction or heating, especially >200 °C, in a non-open space.
Relative density:	1,4 - 1,5 g/cm ³ (20 °C)
Solubility:	Water-solubility: ammoniumnitrate is soluble; Fat-solubility: ethylene glycol dinitrate is soluble

10. Stability and reactivity

Conditions to avoid:	Risk of explosion by shock, friction, fire or other sources of ignition.
Materials to avoid:	Acids and bases, do not let foreign materials get mixed in the product.
Hazardous decomposition products:	Carbon monoxide, nitrogen oxides (nitrous gases), ammonia.

11. Toxicological information

Empirical data on effects on humans: Uncartridged preparation is toxic in contact with skin, through inhalation or if swallowed. Material absorbs through the skin. Inhalation of vapours, oral uptake or dermal absorption in a first step will lead to vasodilatation and lowering of blood pressure. As symptoms headaches and dizziness may occur.

12. Ecological information

Ecotoxicity: Uncartridged substance is toxic to aquatic organisms.

Mobility: Water-soluble nitrates may drift to groundwater and reduce their quality.

Degradability: Ammoniumnitrate decomposes completely in nature. Ethylene glycol dinitrate decomposes slowly in nature.

Bioaccumulation: Ammoniumnitrate does not accumulate. No data available of accumulation of Ethylene glycol dinitrate.

13. Disposal considerations

Disposal: Waste and explosive tainted containers must be disposed of only in accordance with national regulations. Uncleaned empty containers are to be handled in the same way as the ones containing the products.

14. Transport information

UN - number: 0081

Packing group: None

ADR/RID - class: P116

Risk code 1

Proper shipping name: 1.1D

IMDG - class: Explosive, blasting, type A (Fordyn)

EMS - number: 1.1D

ICAO/IATA - class: F-B, S-Y

15. Regulatory information

Labeling:	The package is labeled as required by the Finnish Ministry of Communications.
Other regulations:	Products should be handled only by authorized persons and according to the specific national regulations for handling explosives.

16. Other information

R-phrases:	R2: Risk of explosion by shock, friction, fire or other sources of ignition R5: Heating may cause an explosion. R9: Explosive when mixed with combustible material R11: Highly flammable R26/27/28: Very toxic by inhalation, in contact with skin and if swallowed. R33: Danger of cumulative effects.
Directions for use	
Further information:	If the product is used for purposes other than specified in the product information sheet, its suitability must be checked from the technical customer support of OY Forcit AB.
Sources of information	Technical product information sheet is available from OY Forcit AB. (other additional information www.forcit.fi) The information contained is based on the present state of our knowledge. It does not represent any guarantee with regard to product properties or their suitability for particular uses. Because the use of this information and instructions or the conditions of use of the product are not at our control, it is the users duty to specify the circumstances for the safe use of the product.