



SAFETY DATA SHEET

F-Cord 10, F-Cord 10T

SDS according to Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Annex II-EU

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

Date issued 16.11.2015

1.1. Product identifier

Product name F-Cord 10, F-Cord 10T

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/preparation Initiation device, detonating cord.

The chemical can be used by the general public No

1.3. Details of the supplier of the safety data sheet

Manufacturer

Company name OY FORCIT AB
 Postal address P.O.Box 19
 Postcode 10901
 City Hanko
 Country Finland
 Tel +358 (0)207 440 400
 E-mail forcit@forcit.fi

1.4. Emergency telephone number

Emergency telephone National poison information center / National helpdesk:countrywise telephone number

SECTION 2: Hazards identification

2.1. Classification of substance or mixture

Classification according to 67/548/EEC or 1999/45/EC E; R3

Classification according to Regulation (EC) No 1272/2008 [CLP/GHS] Expl. 1.1; H201

Additional information on classification Classification according to the PETN in the product.

2.2. Label elements

Hazard Pictograms (CLP)



Signal word Danger
 Hazard statements H201 Explosive; mass explosion hazard.
 Precautionary statements P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

	P281 Use personal protective equipment as required. P372 Explosion risk in case of fire. P380 Evacuate area. P373 DO NOT fight fire when fire reaches explosives. P401 Store in accordance with national regulations.
Other Label Information (CLP)	Explosives are labeled and packaged in accordance with the requirements for explosives only.

2.3. Other hazards

Description of hazard	Risk of explosion by shock, friction, fire or other sources of ignition.
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SECTION 3: Composition/information on ingredients

3.1. Substances

Substance	Identification	Classification	Contents
Pentaerythritol tetranitrate	CAS no.: 78-11-5 EC no.: 201-084-3 Index no.: 603-035-00-5	Unst. expl.; H200	100 %
Remarks, substance	Pentaerythritol tetranitrate (penthrite, PETN)		
Substance comments	The detonating cord contains PETN 10 g/m.		

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	If experiencing respiratory symptoms: Remove victim to fresh air and keep at rest in a position comfortable for breathing. For breathing difficulties oxygen may be necessary. Perform artificial respiration if breathing has stopped. Get medical attention.
Skin contact	Immediately remove contaminated clothing. Wash skin thoroughly with soap and water for several minutes. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids widely. If irritation persists: Continue flushing during transport to hospital. Bring these instructions.
Ingestion	Rinse mouth with water. Get immediate medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed

Information for health personnel	Symptoms do not necessarily appear immediately. Patients should therefore be kept under medical observation for at least 48 hours.
Delayed symptoms and effects	If decomposition products are inhaled pulmonary oedema can occur.

4.3. Indication of any immediate medical attention and special treatment needed

Other Information	Not determined.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	DO NOT fight fire when fire reaches explosives.
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5.2. Special hazards arising from the substance or mixture

Fire and explosion hazards	In case of fire, toxic gases may be formed (CO, CO ₂ , NO _x). May explode when heated or when exposed to flames or sparks.
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5.3. Advice for firefighters

Other Information	DO NOT fight fire when fire reaches explosives. In case of fire: Evacuate area. Fight adjacent fire with all available means to prevent fire from reaching the product.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	Eliminate all ignition sources if safe to do so.
Personal protection measures	Warn everybody of potential hazards and evacuate if necessary. Avoid contact with eyes and prolonged skin contact. Ventilate well. For personal protection, see section 8.

6.2. Environmental precautions

Environmental precautionary measures	Prevent spillage entering a watercourse or sewer, contaminating soil or vegetation. If this is not possible notify police and appropriate authorities immediately.
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6.3. Methods and material for containment and cleaning up

Cleaning method	Remove sources of ignition. Beware of the explosion danger. Collect spilled explosive mass with suitable non-sparking tools (made of wood or aluminum). Place into marked, sealable containers and dispose of as required by the authorities.
Containment	The end of unused detonating cord should be kept sealed.

6.4. Reference to other sections

Other instructions	Firefighting, see Section 5. Personal protective equipment, see Section 8.2. Disposal of waste containing product residues, see Section 13.1.
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Handling	Do not smoke or use open fire, or other sources of ignition. Protect against physical damage and/or friction. Use non sparking handtools and explosion-proof electric equipment. Observe good chemical hygiene practices. Eye wash facilities must be available when handling this product.
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7.2. Conditions for safe storage, including any incompatibilities

Storage	Store locked up. Store in tightly closed original container in a dry and cool place. Store in a dry place. National regulations must be followed with handling and storage.
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7.3. Specific end use(s)

Specific use(s)	See Section 1.2
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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Other Information about threshold limit values	Not determined.
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DNEL / PNEC

Other Information	Not determined.
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8.2. Exposure controls

Safety signs



Respiratory protection

Respiratory protection	Under normal conditions of use respiration protection should not be required. In case of inadequate ventilation: Dust filter P2 (for fine dust).
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Hand protection

Hand protection	Protective gloves are recommended.
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Eye / face protection

Eye protection Goggles/face shield are recommended.

Skin protection

Skin protection (except hands) Wear appropriate clothing to prevent any possibility of skin contact. (Cotton.)

Hygiene / Environmental

Specific hygiene measures Wash hands always after work, before eating, drinking, smoking or going to the bathroom. When using the product do not eat, drink or smoke.

Appropriate environmental exposure control

Environmental exposure controls Avoid the product from entering drains, sewers, waterways and soil.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state A plastic coated cord with PETN powder core.

Colour Coating: Yellow. Powder: White.

Odour Odourless.

Comments, Odour limit Not relevant.

Comments, pH (as supplied) Not relevant.

Melting point/melting range Value: 141,3 °C

Comments, Melting point / melting range (PETN)

Comments, Boiling point / boiling range Not relevant.

Comments, Flash point Not relevant.

Comments, Evaporation rate Not relevant.

Flammability (solid, gas) Not determined.

Comments, Explosion limit Not determined.

Comments, Vapour pressure Not relevant.

Comments, Vapour density Not relevant.

Specific gravity Value: 1,77 kg/dm³

Comments, Specific gravity Test temperature: 20 °C

Solubility description (PETN)

Insoluble in water.

Soluble in: Acetone.

Comments, Partition coefficient: n-octanol / water No data recorded.

Spontaneous combustability Value: ~ 200 °C

Comments, Spontaneous combustability (PETN)

Decomposition temperature Value: ~ 140 °C

Comments, Decomposition temperature In confinement.

Comments, Viscosity Not determined.

Explosive properties Explosive

Oxidising properties Not determined.

Comments, Viscosity Not determined.

Explosive properties Explosive

Oxidising properties Not determined.

Comments, Viscosity Not determined.

Explosive properties Explosive

Oxidising properties Not determined.

Comments, Viscosity Not determined.

Explosive properties Explosive

Oxidising properties Not determined.

Comments, Viscosity Not determined.

Explosive properties Explosive

Oxidising properties Not determined.

Comments, Viscosity Not determined.

Explosive properties Explosive

Oxidising properties Not determined.

Comments, Viscosity Not determined.

Explosive properties Explosive

Oxidising properties Not determined.

Comments, Viscosity Not determined.

Explosive properties Explosive

Oxidising properties Not determined.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity No dangerous reactions known under conditions of normal use.

10.2. Chemical stability

Stability Stable under normal temperature conditions and recommended use.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None known under normal storage and handling conditions.

10.4. Conditions to avoid

Conditions to avoid Risk of explosion by shock, friction, fire or other sources of ignition. Take precautionary measures against static discharge.

10.5. Incompatible materials

Materials to avoid Strong oxidising substances. Strong reducing agents.

10.6. Hazardous decomposition products

Hazardous decomposition products During fire, toxic gases (CO, CO₂, NO_x) are formed.

SECTION 11: Toxicological information**11.1. Information on toxicological effects****Toxicological Information:**

LD50 oral Value: 1660 mg/kg
 Animal test species: rat
 Comments: PETN

Toxicological data for substances**Other information regarding health hazards**

General PETN is an antihypertensive: it has a blood pressure-lowering effect.

Acute toxicity, Mixture estimate

Assessment of acute toxicity Not known.
 classification

Potential acute effects

Irritation Not known.
 Corrosivity Not known.
 Aspiration hazard Not known.
 Eye damage or irritation other info May cause eye irritation.

Delayed effects / repeated exposure

General respiratory or skin Not known.
 sensitisation
 STOT-single exposure Not known.
 STOT-repeated exposure Not known.

Carcinogenic, Mutagenic or Reprotoxic

Carcinogenicity Not known.
 Teratogenic properties Not known.
 Reproductive toxicity Not known.

Symptoms of Exposure

Symptoms of overexposure Headache. Hypotension (low blood pressure). Possibly: Skin irritation. Irritation of eyes and mucous membranes.

Other Information No data recorded.

SECTION 12: Ecological information**12.1. Toxicity**

Acute aquatic, fish Value: 27000 mg/l
 Method of testing: LC50
 Fish, species: Pimephales promelas
 Duration: 96 h
 Test reference: PETN
 Acute aquatic, Daphnia Value: 8500 mg/l
 Method of testing: LC50

Daphnia, species: Daphnia magna

Duration: 48 h

Test reference: PETN

Toxicological data for substances**12.2. Persistence and degradability**

Persistence and degradability description Not determined.

12.3. Bioaccumulative potential

Bioaccumulative potential Not determined.

12.4. Mobility in soil

Mobility Not determined.

12.5. Results of PBT and vPvB assessment

PBT assessment results Not determined.

vPvB evaluation results Not determined.

12.6. Other adverse effects

Other adverse effects / Remarks No data recorded.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Specify the appropriate methods of disposal Do not allow runoff to sewer, waterway or ground. Do not mix with normal waste.

Explosives waste and explosives-tainted containers must be collected immediately and disposed only under the supervision of experts and in accordance with given regulations. Uncleaned empty containers are to be handled in the same way as the ones containing products.

Product classified as hazardous waste Yes

SECTION 14: Transport information**14.1. UN number**

ADR 0065

RID 0065

IMDG 0065

ICAO/IATA 0065

14.2. UN proper shipping name

ADR CORD, DETONATING

RID CORD, DETONATING

IMDG CORD, DETONATING

ICAO/IATA CORD, DETONATING

14.3. Transport hazard class(es)

ADR 1.1D

RID 1.1D

IMDG 1.1D

ICAO/IATA 1.1D

Comments Prohibited from air transport.

14.4. Packing group

Comments Not determined.

14.5. Environmental hazards

Comments Not determined.

14.6. Special precautions for user

EmS F-B, S-X

Special safety precautions for user Not determined.

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

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Comments For professional users only.

15.2. Chemical safety assessment

CSR required No

SECTION 16: Other information

Hazard symbol



Explosive

R-phrases	R3 Extreme risk of explosion by shock, friction, fire or othersources of ignition.
S-phrases	S35 This material and its container must be disposed of in a safe way.
Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]	Expl. 1.1; H201;
List of relevant R-phrases (under headings 2 and 3).	R3 Extreme risk of explosion by shock, friction, fire or othersources of ignition.
List of relevant H-phrases (Section 2 and 3).	H201 Explosive; mass explosion hazard. H200 Unstable explosives.
Important data sources used to construct the safety data sheet	REACH Directive (EC) 1907/2006 CLP Regulation (EC) 1272/2008 Material Safety Data Sheets on raw materials
Information which has been added, deleted or revised	Change to Sections: 2, 9.
Version	2
Responsible for safety data sheet	OY FORCIT AB
Comments	The information in this MSDS 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 is not at our control, it is the user's duty to specify the circumstances for the safe use of the product.