



SAFETY DATA SHEET

DYNOPRIME 250 / 0,5 / 1,0 / 1,7



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

Date issued	12.02.2008
Revision	16.11.2010
Product name	DYNOPRIME 250 / 0,5 / 1,0 / 1,7
Article no.	Intern no.: 042-01.eng.02_N
Declaration no.	PRN 120401
Product group	Booster.
Use of the substance/preparation	Initializing of bulk explosives.
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2. hazards identification

Classification	E; R3
Hazard description	<p>Fire and explosion: Extreme risk of explosion by shock, friction, fire or other sources of ignition. Risk of explosion, an uncontrolled explosion may cause great physical damage.</p> <p>Health: The product is not classified as hazardous to health. At explosion, toxic gases of NO, NO₂ and CO, CO₂ are evolved, posing a potential risk when inhaled, and irritating the respiratory system.</p> <p>Environment: The product is not classified as harmful to the environment.</p>

3. composition/information on ingredients

Component name	Identification	Labelling/classification	Contents
2,4,6-Trinitrotoluene	CAS no.: 118-96-7 EC no.: 204-289-6 Index no.: 609-008-00-4	T,E,N; R2,R23/24/25, R33,R51/53	60 - 75 %
Hexogen (RDX)	CAS no.: 121-82-4 EC no.: 204-500-1	E; R2 T; R25	20 - 25 %
Pentaerythritol tetranitrate	CAS no.: 78-11-5 EC no.: 201-084-3 Index no.: 603-035-00-5	E; R3	5 - 10 %
Column headings	CAS no. = Chemical Abstracts Service; EU (Einecs or Elincs number) = European inventory of Existing Commercial Chemical Substances; Ingredient name = Name as specified in the substance list (substances that are not included in the substance list must be translated, if possible). Contents given in; %, %wt/wt, %vol/wt, %vol/vol, mg/m ³ , ppb, ppm, weight%, vol%		
HH/HF/HE	T+ = Very toxic, T = Toxic, C = Corrosive, Xn = Harmful, Xi = Irritating, E = Explosive, O = Oxidizing, F+ = Extremely flammable, F = Very flammable, N = Environmental hazard		
Component comments	See section 16 for explanation of Risk-phrases listed above. DYNOPRIME has a strong outer shell of plastic and contains a casted body of TNT/RDX, with a cap sensitive part of pressed PETN around the detonator recess.		

4. first-aid measures

General	If in doubt, get medical advice. The mentioned first aid action is for exposure to the contents in the product.
Inhalation	Inhaling gases from fire / explosion: Fresh air and rest. In case of unconsciousness, loosen tight fitting clothing. If respiratory problems, provide artificial respiration or oxygen. Seek medical advice. Be aware that symptoms of lung oedema (shortness of breath) may develop up to 48 hours after exposure. Immediately call an ambulance.
Skin contact	Remove contaminated clothing. Wash the skin immediately with soap and water. Contact physician if symptoms appears.
Eye contact	Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyes wide apart. Contact physician if irritation persists.
Ingestion	Not relevant. Rinse the mouth. Consult a doctor.

5. fire-fighting measures

Suitable extinguishing media	Extinguish surrounding fires with suitable extinguisher.
Improper extinguishing media	Do not fight fires involving explosives, risk of explosion. Fire in explosives can not be extinguished with any fire fighter equipment. Fire fighting should be limited to preventing spread of other fires.
Fire and explosion hazards	Extreme risk of explosion by shock, friction, fire or other sources of ignition. Explosion or fire may create toxic vapours such as: Nitrogen oxides. Carbon oxides. Ammonia.
Personal protective equipment	Use fresh air equipment when the product is involved in fire. In case of evacuation, an approved protection mask should be used. See also sect. 8.
Other Information	Evacuate all personnel to a predetermined safe location. Notify authorities in accordance with emergency response procedures. If possible without risk, immediately remove containers close to the fire.

6. accidental release measures

General measures	Accident release to soil can easily be cleaned up because of the packaging of the product.
Personal precautions	Use protection equipment as given in section 8. Avoid contact with skin and eyes.
Environmental precautions	Do not allow to enter into sewer, water system or soil.
Methods for cleaning	Explosives with intact packaging may be put in containers by hand. Sweep up residues with non-sparking tools and remove. The product is hazardous waste and should be transferred to a closable, labelled salvage container for disposal by an appropriate method(See sect. 13)
Other instructions	Reference: Regulation on handling explosives by 26.06.2002. Chapter 7.

7. handling and storage

Handling	Only to be handled by authorized personnel. Place the explosives under supervision and unavailable for persons not concerned. Avoid smoking and use of open fire. Protect against heating. Protect against physical damage and/or friction.
Storage	Store separated from: igniters. Store in tightly closed container. Storage room must be locked and secured from fire. Store in cool, dry, well-ventilated location. Keep away from heat, flame, ignition sources and strong shock. To be stored at temperatures between 0 and 30 °C. Reference: Regulation on handling explosives by 26.06.2002. Chapter 7.
Special risks and properties	Extreme risk of explosion by shock, friction, fire or other sources of ignition.

8. exposure controls/personal protection

Exposure limit values

Component name	Identification	Unit	Year
2,4,6-Trinitrotoluene	CAS no.: 118-96-7 EC no.: 204-289-6 Index no.: 609-008-00-4	8h: 0,1 mg/m ³ , H	2007
Carbon monoxide	CAS no.: 630-08-0 EC no.: 211-128-3 Index no.: 006-001-00-2	8h: 25 ppm 8h: 29 mg/m ³ , 4)	2007
Carbon dioxide	CAS no.: 124-38-9 EC no.: 204-696-9	8h: 9000 mg/m ³	2007
Nitrogen Dioxide	CAS no.: 10102-44-0 EC no.: 233-272-6 Index no.: 007-002-00-0	8h: 0,6 ppm 8h: 1,1 mg/m ³ , 9)	2007
Nitrogen oxide	CAS no.: 10102-43-9 EC no.: 233-271-0	8h: 25 ppm 8h: 30 mg/m ³	2007

Exposure controls

Other Information	The exposure limit values are Norwegian limits. The given safety equipment is a suggestion. Risk assessment (actual risk) may lead to other requirements.
Occupational exposure controls	No eating, drinking or smoking while working with this material. Wash hands at the end of each work shift and before eating, smoking and using the toilet.
Respiratory protection	Normally not required.
Hand protection	Use gloves suitable for the work. When handling explosive residue, use gloves from resistant material, eg.: Nitrile.
Eye protection	Normally not necessary.
Skin protection (other than of the hands)	Wear appropriate clothing to prevent any possibility of skin contact.
Other Information	Eye wash facilities should be available when handling this product. Clothing that becomes wet or contaminated should be changed.

9. physical and chemical properties

Physical state	Yellowish charge surrounded by an outer shell of red plastic.
Odour	None.
Colour	Yellow
Solubility in water	Insoluble.

Other physical and chemical properties

Physical and chemical properties	Thermal stability: 48 hours at 75 °C.
Comments	See Technical Data Sheet for more information.

10. stability and reactivity

Conditions to avoid	May detonate with impact, friction or on heating. Avoid high temperatures. Avoid heat.
Hazardous decomposition products	Thermal decomposition or combustion may liberate carbon oxides (CO _x) and other toxic gases or vapours. Nitrous gases (NO _x). Ammonia.
Stability	Stable under normal temperature conditions and recommended use.

11. toxicological information

Other information regarding health hazards

General	The product has a strong outer shell of plastic. The risk of being exposed to the contents other than by detonation is very small. Splinters from the detonation may cause considerable burns and wounds.
Inhalation	Gas or vapour may irritate respiratory system. Inhalation of nitrous gases may lead to pulmonary edema.
Skin contact	Moderately irritating. Some of the contents may be absorbed through the skin.
Eye contact	Moderately irritating.

Ingestion	Not likely, due to the packaging.
Chronic effects	No known chronic or acute health hazards.
Sensitisation	Sensitizing properties are not known.
Carcinogenicity	Carcinogenic properties are not known.
Teratogenic properties	Effects on fetus development are not known.
Reproductive toxicity	Effects harmful to reproduction are not known.
Mutagenicity	Mutagenic properties are not known.

12. ecological information

Other ecological information

Ecotoxicity	The product is not classified as dangerous for the environment. The product contains a substance which is harmful to aquatic organisms.
Mobility	Insoluble in water.
Persistence and degradability	The product is not biodegradable.
Bioaccumulative potential	The product contains potentially bioaccumulating substances.

13. disposal considerations

Product classified as hazardous waste	Yes
Packaging classified as hazardous waste	Yes
Specify the appropriate methods of disposal	Dispose of in a regulated landfill site or other method for hazardous or toxic wastes. Residues of explosives must immediately be removed for intermediate storage and disposed for safely destruction. Product and package is hazardous waste. Deliver to approved depot. Product disposal is regulated by the Norwegian Ministry of Government Administration and Reform under the supervision of Directorate for Civil Protection and Emergency Planning.

14. transport information

Proper Shipping Name	BOOSTERS
Product name (national)	OVERDRAGERE uten detonator
Dangerous goods ADR	Status: Yes UN no.: 0042 Class: 1 Other applicable information.: Classification code: 1.1 D
Dangerous goods RID	Status: Yes UN no.: 0042 Class: 1 Other applicable information.: Classification code: 1.1 D
Dangerous goods IMDG	Status: Yes UN no.: 0042 Class: 1 EmS: F-B, S-X Proper shipping name: Classification code: 1.1 D
Dangerous goods ICAO/IATA	Other applicable information.: Forbidden
Hazard label	1 (+13)

15. regulatory information

Hazard symbol



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. S41 In case of fire and/or explosion do not breathe fumes. S45 In case of accident or if you feel unwell, seek medical advice immediately (show the lable where possible).
References (laws/regulations)	Dangerous goods regulation. Regulation regarding compiling of material safety data sheets Occupational Exposure Limits. EH40/2005. CHIPS Regulation. Regulation on Hazardous Waste. Norwegian regulation on handling explosives by 26.06.2002.

16. other information

List of relevant R phrases (under headings 2 and 3).	R23/24/25 Toxic by inhalation, in contact with skin and if swallowed. R25 Toxic if swallowed. R2 Risk of explosion by shock, friction, fire or other sources ofignition. R33 Danger of cumulative effects. R3 Extreme risk of explosion by shock, friction, fire or othersources of ignition. R51/53 Toxic to aquatic organisms, may cause long-term adverseeffects in the aquatic environment.
Recommended restrictions on use	The product can only be handed out to personnel that have valid permits issued by the police
Information which has been added, deleted or revised	New Safety Data Sheet
Supplier's notes	Information in this document is to be made available for all who handle the product.
Checking quality of information	This MSDS is quality controlled by National institute of Technology, Norway, which complies with the Quality Management System requirements specified in NS-EN ISO 9001:2000.
Responsible for safety datasheet	Orica Finland Oy