



SAFETY DATA SHEET

Nobel Prime



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

Date issued	30.06.2009, Revision 16.11.2010
Product name	Nobel Prime
Article no.	Intern no.: 042-02.eng.01_F
Product group	NG explosive with PETN for civil use.
Company name	Orica Finland Oy (c/o Accounting Services Tilimatic O)
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2. Hazards identification

Classification	E; R2 T+; R26/27/28, R33
Description of hazard	Fire and explosion: Risk of explosion by shock, friction, fire or other sources of ignition. Risk of explosion, an uncontrolled explosion may cause great physical damage. Health: Very toxic by inhalation, in contact with skin and if swallowed. Danger of cumulative effects. Environment: The product is not classified as harmful to the environment.
Other hazards	Refer to section 5, 11 and 12 for complementary information. The health hazards are mainly about exposure to uncartridged product or inhaling of gases from explosion.

3. composition/information on ingredients

Component name	Identification	Labelling/classification	Contents
Ethylene dinitrate	CAS no.: 628-96-6 EC no.: 211-063-0 Index no.: 603-032-00-9	T+,E; R2,R26/27/28,R33	30 - 40 %
Cellulose Tetranitrate	CAS no.: 9004-70-0	F; R11	< 2 %
Ammonium nitrate	CAS no.: 6484-52-2 EC no.: 229-347-8	O; R5, R9	30 - 50 %
Penthrith (PETN)	CAS no.: 78-11-5 EC no.: 201-084-3 Index no.: 603-035-00-5	E; R3	20 - 30 %
Column headings	CAS no. = Chemical Abstracts Service; EU (Eincex or Elincx 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/m3, 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.

4. first-aid measures

General	If in doubt, get medical advice. The first aid actions mentioned below are mainly for exposure to uncartridged product.
Inhalation	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 24 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. By prolonged rinse, use lukewarm water to avoid damage to the eye.
Ingestion	Rinse mouth thoroughly with water. Get medical attention.

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	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

Personal precautions	Use protection equipment as given in section 8. Avoid contact with skin or inhalation of spillage, dust or vapour.
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)

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. Avoid mechanical stress and use non-sparking tools.
Storage	Store in tightly closed container. Storage room must be locked and secured from fire.

	Store in cool, dry, well-ventilated location.
Special risks and properties	Risk of explosion by shock, friction, fire or other sources of ignition.
Other Information	National regulations must be followed when it comes to handling and storage of explosives.

8. exposure controls/personal protection

Exposure limit values

Component name	Identification	Value	Year
Carbon dioxide	CAS no.: 124-38-9	8h: 5000 ppm	1974
	EC no.: 204-696-9	8h: 9000 mg/m ³	
Carbon monoxide	CAS no.: 630-08-0	8h: 35 ppm	1974
	EC no.: 211-128-3	8h: 40 mg/m ³	
	Index no.: 006-001-00-2		
Carbon monoxide	CAS no.: 630-08-0	8h: 35 ppm	1974
	EC no.: 211-128-3	8h: 40 mg/m ³	
	Index no.: 006-001-00-2		
Nitrogen oxide	CAS no.: 10102-43-9	8h: 25 ppm	2007
	EC no.: 233-271-0	8h: 30 mg/m ³	
Ethylene dinitrate	CAS no.: 628-96-6	8h: 0,2 mg/m ³	2000
		15 min.: 0,6 mg/m ³	

Exposure controls

Other Information about threshold limit values	The exposure limit values are Swedish limits.
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. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment
Respiratory protection	Normally not required. If ventilation is insufficient, use a respirator with A2 filter.
Hand protection	Use gloves suitable for the work. When handling explosive residue, use gloves from resistant material, eg.: Nitrile. Penetration time is not known. The recommended material of gloves is recommended after a study of the single components in the product.
Eye protection	Wear approved chemical safety goggles where eye exposure is reasonably probable.
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. The listed safety equipment is a suggestion. Risk assessment (actual risk) may lead to other requirements.

9. physical and chemical properties

Physical state	Gelatinous mass packed in plastic tubes.
Odour	Characteristic.
Colour	Yellowish
Solubility in water	Insoluble. Ammonium nitrate will over time be released and it is soluble in water.
Specific gravity	Value: 1,5 kg/dm ³ Comments: at 20 °C
Explosion limit	Value: > 200 °C
Decomposition temperature	Value: 160 °C

Method of testing: BAM

10. stability and reactivity

Conditions to avoid	Risk of explosion by shock, fire or other sources of ignition.
Materials to avoid	Acids. Bases. Do not let foreign materials get mixed in the product.
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	Splinters from detonation may cause considerable burns and wounds. The health hazards are mainly about exposure to uncartridged product. Uncartridged product is very toxic by inhalation, in contact with skin and if swallowed.
Inhalation	Very toxic by inhalation. Symptoms like headache, fatigue and nausea may appear. Inhalation of nitrous gases may lead to pulmonary edema.
Skin contact	Very toxic in contact with skin. Skin penetration possible.
Eye contact	Moderately irritating.
Ingestion	Very toxic if swallowed.
Chronic effects	Contains components which have cumulative effects.

12. ecological information

Other ecological information

Ecotoxicity	The product is not classified as dangerous for the environment.
Mobility	The product is water resistant. Ammonium nitrate will over time be released and it is soluble in water.
Persistence and degradability	The product is heavily biodegradable.
Bioaccumulative potential	Not expected to bioaccumulate.

13. disposal considerations

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. Deposits must be in accordance with local, public or national regulations.
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14. transport information

Product name (national)	BOOSTERS
Dangerous goods ADR	Status: Yes UN no.: 0042 Class: 1.1D Proper shipping name: BOOSTERS Other applicable information.: Classification code: 1.1 D
Dangerous goods RID	Status: Yes UN no.: 0042 Class: 1.1D Proper shipping name: BOOSTERS Other applicable information.: Classification code: 1.1 D
Dangerous goods IMDG	Status: Yes UN no.: 0042 Class: 1.1D

	EmS: F-B, S-X
	Proper shipping name: BOOSTERS
Dangerous goods ICAO/IATA	UN no.: 0042
	Class: 1.1D
	Proper shipping name: BOOSTERS
	Other applicable information.: Air transport is forbidden

15. regulatory information

Hazard symbol



Composition on the label	Ethylene dinitrate: 30 - 40 %
R phrases	R2 Risk of explosion by shock, friction, fire or other sources of ignition. R26/27/28 Very toxic by inhalation, in contact with skin and if swallowed. R33 Danger of cumulative effects.
S phrases	S27/28 After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of soap and water. S35 This material and its container must be disposed of in a safe way. S36/37 Wear suitable protective clothing and gloves. S38 In case of insufficient ventilation, wear suitable respiratory equipment. S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
References (laws/regulations)	Dangerous goods regulation. Directive (EC) nr 1907/2006 (REACH) Annex II: Safety data sheets. Occupational Exposure Limits. EH40/2007. CHIP Regulations. Regulation on Hazardous Waste. SÄIFS 1998:4 Explosives and SÄIFS 1997:5 Import and transfer of explosives. SRVFS 2006:10 Swedish regulations regarding explosives and storage.

16. other information

List of relevant R phrases (under headings 2 and 3).	R11 Highly flammable. R2 Risk of explosion by shock, friction, fire or other sources of ignition. R26/27/28 Very toxic by inhalation, in contact with skin and if swallowed. R3 Extreme risk of explosion by shock, friction, fire or other sources of ignition. R33 Danger of cumulative effects. R5 Heating may cause an explosion. R9 Explosive when mixed with combustible material.
Recommended restrictions on use	The product should only be handled by authorized personnel and according to the specific national regulations for handling explosives.
Information which has been added, deleted or revised	New Safety Data Sheet
Supplier's notes	The information given in this document is to be made available for all who handle the product.
Checking quality of information	This SDS is quality controlled by National Institute of Technology in Norway, certified according to the Quality Management System requirements specified in NS-EN ISO 9001:2000.
Responsible for safety datasheet	Orica Finland Oy