SAFETY DATA SHEET SUBTEK CONTROL, SUBTEK VELCRO, CIVEC CONTROL, CENTRA GOLD 100S AND FORTIS ADVANTAGE 100S

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

Date issued	28.11.2008, Revision 05.11.2010
Product name	SUBTEK CONTROL, SUBTEK VELCRO, CIVEC CONTROL, CENTRA GOLD 100S AND FORTIS ADVANTAGE 100S
Article no.	Intern no.: 241-03.eng.01_N
Product group	Emulsion explosive
Company name	Orica Norway AS
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2. hazards identification

Classification	E; R2
Hazard description	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: The product is not classified as hazardous to health. The risks are present only by direct exposure at ignition or after explosion. At explosion, toxic gases of NO, NO2 are evolved, posing a potential risk when inhaled, and irritating the respiratory system. Ammonia gas may be developed when the explosive is exposed to alkaline products such as soap, concrete or lye Environment: The product is not classified as harmful to the environment.

3. composition/information on ingredients

Component name	Identification	Labelling/classification	Contents
Civic control ANE, ANE 7000 and ANE 7100		O; R44, R9	95 - 99,5 %
N-10		T; R20/21, R25, R32	0,5 - 5 %
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/m3, ppb, ppm, weight%, vol%
HH/HF/HE	T+ = Very toxic, T = Toxic, C = Corrosive, Xn = Harmful, Xi = Irritating, E = Explosive, O = Oxidizing, F+ = Extremly flammable, F = Very flammable, N = Environmental hazard
Component comments	See section 16 for explanation of Risk-phrases listed above. More information about the ingredients can be found in technical data sheets. The ingredients are separated in different containers in the charge- production unit at the work site. The ingredient N-10 contains sodium nitrite. When mixing N-10 with Civic control ANE, ANE 7000 and ANE 7100 sodium nitrite reacts and disappears.

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	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	Flush immediately with large amount of water (temperated at 20-30°C), at least for 15 min. If symptomes persist, seek medical advice.
Ingestion	Rinse mouth thoroughly. 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 equipment.
Fire and explosion hazards	The product is explosive by friction, impact, and heating. 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. See also sect. 8.
Other Information	Evacuate all personell to a predetermined safe location. Notify authorities in accordance with emergency response procedures. Containers close to fire should be removed immediately or cooled with water.

6. accidental release measures

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	Isolate area and remove sources of friction, impact and heat. Sweep up 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. Keep away from sources of ignition - No smoking. Protect against heating. Protect against physical damage and/or friction.
Storage	Storage room must be locked and secured from fire. Store in tightly closed container.

	Keep away from heat, flame, ignition sources and strong shock.
Special risks and properties	Explosive by friction, impact, and heating.

8. exposure controls/personal protection

Exposure limit values

Component name	Identification	Unit	Year
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/m3, 9)	2007
Nitrogen oxide	CAS no.: 10102-43-9 EC no.: 233-271-0	8h: 25 ppm 8h: 30 mg/m3	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/m3, 4)	2007
ammonia, anhydrous	CAS no.: 7664-41-7 EC no.: 231-635-3 Index no.: 007-001-00-5	8h: 18 mg/m3 Value: 25 mg/m3 15min	

Exposure controls

Other Information	The given safety equiptment is a suggestion. Risk assessment (actual risk) may lead to other requirements. Norwegian treshold limit value on pollution in workspace valid from november 2007.
Occupational exposure controls	Do not eat, drink or smoke during work. 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.
Hand protection	Use gloves from resistant material, eg.: Nitrile. Polyvinyl chloride (PVC). Penetration time > 8 hours.
Eye protection	Use approved safety goggles or face shield.
Skin protection (other than of the hands)	Wear appropriate protective clothing to protect against skin contact.
Other Information	Eye wash facilities should be available when handling this product. Promptly remove any clothing that becomes wet or contaminated.

9. physical and chemical properties

Physical state	water- in- oil emulsion
Odour	None. Slight oil smell.
Colour	Yellow white
Solubility in water	Immiscible or poorly miscible.
Specific gravity	**Value:** 0,8-1,3 kg/dm3
Explosion limit	**Value:** > 200 °C

10. stability and reactivity

Conditions to avoid	May detonate with impact, friction or on heating.
Hazardous decomposition products	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Nitrous gases (NOx). Ammoniak.
Stability	Stable under normal temperature conditions and recommended use.

11. toxicological information

Other information regarding health hazards

General	See the safety data sheets for each of the ingredients for more information about their health hazards. The ingredient N-10 contains sodium nitrite. When mixing N-10 with Civic control ANE, ANE 7000 and ANE 7100 it reacts and disappears.
Inhalation	Gas or vapour may irritate respiratory system. Inhalation of nitrous gases may lead to pulmonary edema.
Skin contact	Moderately irritating.
Eye contact	Moderately irritating.
Ingestion	May cause discomfort if swallowed.
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.
Mobility	The product has poor water-solubility. Nitrate salts are completely soluble, but emulsion dissolution is very slow.
Persistence and degradability	This product mainly consists of inorganic compounds which are not biodegradable. The remaining compounds of the product are expected to be easily biodegradable.
Bioaccumulative potential	Will not bio-accumulate.
Other adverse effects / Remarks	See the safety data sheets for Civic control ANE, ANE 7000, ANE 7100 and N-10 for more ecological information.

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	EXPLOSIVE, BLASTING, TYPE E
Product name (national)	EXPLOSIVE, BLASTING, TYPE E
Dangerous goods ADR	**Status:** Yes **UN no.:** 0241 **Class:** 1.1D **Proper shipping name:** EXPLOSIVE, BLASTING, TYPE E
Dangerous goods RID	**Status:** Yes **UN no.:** 0241 **Class:** 1.1D **Proper shipping name:** EXPLOSIVE, BLASTING, TYPE E

Dangerous goods IMDG	**Status:** Yes **UN no.:** 0241 **Class:** 1.1D **IMDG Marine pollutant:** No **EmS:** F-B, S-X **Proper shipping name:** EXPLOSIVE, BLASTING, TYPE E
Dangerous goods ICAO/IATA	**UN no.:** 0241 **Class:** 1.1D **Proper shipping name:** EXPLOSIVE, BLASTING, TYPE E **Other applicable information.:** Forbidden

15. regulatory information

Hazard symbol

R phrases	R2 Risk of explosion by shock, friction, fire or other sources ofignition.
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.
References (laws/regulations)	Direktiv (EC) nr 1907/2006 (REACH) Annex II: Safety data sheets. Dangerous goods regulation. Occupational Exposure Limits. EH40/2005. CHIPS Regulation. Regulation on Hazardous Waste. REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Norwegian regulation on the handling of explosives. The Safety Data Sheet is made on the basis of information given by the producer.

16. other information

List of relevant R phrases (under headings 2 and 3).	R20/21 Harmful by inhalation and in contact with skin. R25 Toxic if swallowed. R2 Risk of explosion by shock, friction, fire or other sources ofignition. R32 Contact with acids liberates very toxic gas. R44 Risk of explosion if heated under confinement. R9 Explosive when mixed with combustible material.
Information which has been added, deleted or revised	Company name, Postal address
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 Norway AS