SECTION 1 – IDENTIFICATION

Name, Address, and Telephone of the Responsible Party

Dyno Nobel Inc.

6440 S. Millrock Drive, Suite 150 Salt Lake City, Utah 84121

Phone: 801-364-4800 Fax 801-321-6703

E-Mail: dnna.hse@am.dynonobel.com www.dynonobel.com

Product Identifier

Product Name: Seispro dBX Other Means of Identification

Synonyms: Seispro™, Seispro™ dBX ™

Intended Use of the Product For professional use only.

Emergency Telephone Number

FOR 24 HOUR EMERGENCY, CALL CHEMTREC (USA) 800-424-9300

CANUTEC (CANADA) 613-996-6666

SECTION 2 – HAZARD(S) IDENTIFICATION

Classification of the Substance or Mixture

Classification (GHS-US)

SDS# 1146 Date: 07/20/2020

Expl. 1.1 H201 Flam. Sol. 1 H228 Water-react. 2 H261 Ox. Sol. 3 H272 Eve Irrit. 2A H319

Label Elements GHS-US Labeling

Hazard Pictograms (GHS-US)









SDS #: 1146

Supercedes: 11/01/2018

Date:

07/20/2020

Signal Word (GHS-US) : Danger

Hazard Statements (GHS-US) : H201 - Explosive; mass explosion hazard

H228 - Flammable solid

H261 - In contact with water releases flammable gases

H272 - May intensify fire; oxidizer H319 - Causes serious eye irritation

Precautionary Statements (GHS-US) : P210 - Keep away from open flames, sparks, heat, hot surfaces. - No

smokina

P220 - Keep/Store away from clothing/combustible materials P221 - Take any precaution to avoid mixing with combustibles

P223 - Keep away from any possible contact with water, because of violent

reaction and possible flash fire

P230 - Keep wetted with not less than 30% water

P231+P232 - Handle under inert gas. Protect from moisture P240 - Ground/bond container and receiving equipment

P241 - Use explosion-proof electrical, lighting, ventilating equipment

P250 - Do not subject to grinding, friction, shock P264 - Wash exposed areas thoroughly after handling

P280 - Wear eye protection, protective clothing, protective gloves P305+P351+P338 - If in eyes: Rinse cautiously with water for several

minutes. Remove contact lenses, if present and easy to do. Continue rinsing



P335+P334 - Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages

P337+P313 - If eye irritation persists: Get medical advice/attention

P370+P378 - In case of fire: Use Do NOT attempt to fight fire. to extinguish

P370+P380 - In case of fire: Evacuate area

P372 - Explosion risk in case of fire

P373 - DO NOT fight fire when fire reaches explosives

P401 - Store in accordance with, local, regional, national, territorial,

provincial, and international regulations

P402+P404 - Store in a dry place. Store in a closed container

P501 - Dispose of contents/container according to local, regional, national,

territorial, provincial, and international regulations

Other Hazards

Hazards Not Otherwise Classified (HNOC): Not available

Other Hazards: Not available

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS			
Mixture			
Name	Product identifier	% (w/w)	Ingredient Classification (GHS-US)
Ammonium nitrate	(CAS No) 6484-52-2	40 - 65	Ox. Sol. 3, H272 Eye Irrit. 2A, H319
Aluminum	(CAS No) 7429-90-5	5 - 25	Comb. Dust Flam. Sol. 1, H228 Water-react. 2, H261
Sodium nitrate	(CAS No) 7631-99-4	10 - 25	Ox. Sol. 3, H272 Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319
Distillates, petroleum, chemically neutralized light naphthenic	(CAS No) 64742-35-	0.1 - 3	Asp. Tox. 1, H304

SECTION 4 - FIRST AID MEASURES

Description of First Aid Measures

Full text of H-phrases: see section 16

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible).

Inhalation: When symptoms occur: go into open air and ventilate suspected area. Keep at rest and in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin Contact: Remove contaminated clothing. Gently wash with plenty of soap and water followed by rinsing with water for at least 15 minutes. Call a POISON CENTER or doctor/physician if you feel unwell. Wash contaminated clothing before reuse.

Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

Ingestion: Rinse mouth. Do not induce vomiting. Immediately call a POISON CENTER or doctor/physician.

Most Important Symptoms and Effects Both Acute and Delayed

General: Causes serious eye irritation. **Inhalation:** May cause respiratory irritation. **Skin Contact:** May cause skin irritation. **Eye Contact:** Causes serious eye irritation.

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Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: Aluminum: Inhalation of finely divided aluminum powder may cause pulmonary fibrosis.

Indication of Any Immediate Medical Attention and Special Treatment Needed



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If you feel unwell, seek medical advice (show the label where possible).

SECTION 5 - FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: DO NOT fight fires involving explosives. Evacuate the area for 1 mile or more if any amount of explosives are involved in a fire. Evacuation is also required if the initial fire, not involving explosives, becomes intense. General extinguishers may be used on the initial fire, not involving explosives, such as electrical equipment fires, tire fires or a general plant fire. Water can be used to cool explosives not involved in the initial fire. For large fires use remotely controlled equipment if available.

Unsuitable Extinguishing Media: Do not use carbon dioxide. Halogenated compounds. DO NOT FIGHT FIRES INVOLVING EXPLOSIVES. Attempts to smother a fire involving this product will be ineffective as it is its own oxygen source. Smothering this product could lead to decomposition and explosion. This product is more sensitive to detonation if contaminated with organic or oxidizable material or if heated while confined. Unless the mass of product on fire is flooded with water, re-ignition is possible.

Special Hazards Arising from the Substance or Mixture

Fire Hazard: In case of fire involving explosives: Evacuate area. DO NOT fight fires involving explosives. Consult the most current Emergency Response Guidebook (ERG), Guide 112 for additional information. Extreme risk of explosion from shock, friction, fire or other sources of ignition.

Explosion Hazard: Extreme risk of explosion by shock, friction, fire, impact, heat or other sources of ignition.

Reactivity: Accelerates the rate of burning materials. Oxidizer. May react violently with strong acids, strong oxidizing and reducing agents.

Reference to Other Sections: Refer to section 9 for flammability properties.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Remove ignition sources. No naked lights. No smoking. Use special care to avoid static electric charges. Evacuate danger area. Do NOT breathe (dust, vapor, mist, gas).

For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate danger area.

For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Evacuate unnecessary personnel. Stop leak if safe to do so. Eliminate ignition sources.

Ventilate area.

Environmental Precautions

Prevent entry to sewers and public waters. Hazardous waste due to potential risk of explosion.

Methods and Material for Containment and Cleaning Up

For Containment: Ground equipment electrically. Use only non-sparking tools.

Methods for Cleaning Up: Refer to supplier/manufacturer. Clear up spills immediately and dispose of waste safely. Dispose in a safe manner in accordance with local/national regulations. Spillage should be wetted or immersed in water.

Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection

SECTION 7 - HANDLING AND STORAGE

Precautions for Safe Handling

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Additional Hazards When Processed: Avoid dust production. This product is an explosive and should only be used under the supervision of trained and licensed personnel. Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Do no eat,

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drink or smoke when using this product.

Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Proper grounding procedures to avoid static electricity should be followed. Protect container from physical shock.

Storage Conditions: Store tightly closed in a dry, cool and well-ventilated place. Store at room temperature, below 100 ° F (38 °C). Always avoid open flames and excessive heat exposure. Protect from freezing. In case of electrical storm and possible lightning, locations where lightning could strike and initiate explosions, such as storage areas, must be evacuated to a safe distance. Store in accordance with local, regional, national or international regulation.

Incompatible Materials: Heat sources. Strong acids. Strong bases. Strong oxidizers. Reducing agents.

Storage Temperature: < 30 °C (< 86 °F)

Special Rules on Packaging: Packaged in cylindrical cartridges of paper or plastic film.

Specific End Use(s)
Cast booster material.

Control Parameters	SURE CONTROLS/PERSONAL P	TO LO HOM	
Aluminum (7429-90-5)			
Mexico	OEL TWA (mg/m³)	10 mg/m³	
USA ACGIH	ACGIH TWA (mg/m³)	1 mg/m³	
USA OSHA	OSHA PEL (TWA) (mg/m³)	5 mg/m ³	
USA NIOSH	NIOSH REL (TWA) (mg/m³)	5 mg/m³	
Alberta	OEL TWA (mg/m³)	10 mg/m ³	
British Columbia	OEL TWA (mg/m³)	1.0 mg/m³	
Manitoba	OEL TWA (mg/m³)	1 mg/m³	
New Brunswick	OEL TWA (mg/m³)	10 mg/m ³	
Newfoundland &	OEL TWA (mg/m³)	1 mg/m³	
Labrador			
Nova Scotia	OEL TWA (mg/m³)	1 mg/m³	
Nunavut	OEL STEL (mg/m³)	20 mg/m³	
Nunavut	OEL TWA (mg/m³)	10 mg/m³	
Northwest Territories	OEL STEL (mg/m³)	20 mg/m³	
Northwest Territories	OEL TWA (mg/m³)	10 mg/m³	
Ontario	OEL TWA (mg/m³)	1 mg/m³	
Prince Edward Island	OEL TWA (mg/m³)	1 mg/m³	
Québec	VEMP (mg/m³)	10 mg/m ³	
Saskatchewan	OEL STEL (mg/m³)	20 mg/m ³	
Saskatchewan	OEL TWA (mg/m³)	10 mg/m ³	

Exposure Controls

Appropriate Engineering Controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure, but are not required. Product to be handled under strictly controlled conditions. Ensure all national/local regulations are observed. Provide adequate ventilation to minimize dust concentrations.

Personal Protective Equipment: Gloves. Safety glasses.





Materials for Protective Clothing: Not available

Hand Protection: Wear chemically resistant protective gloves.

Eye Protection: Safety glasses. In case of excessive dust production, safety goggles are recommended. **Skin and Body Protection:** In case of excessive dust production. Wear suitable protective clothing.

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Respiratory Protection: If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State : Solid

Appearance : Gray, opaque semi-solid.

Odor: Little to none.Odor Threshold: Not availablepH: Not available

Relative Evaporation Rate (butylacetate=1) : < 1

Melting Point Not available **Freezing Point** : Not available **Boiling Point** Not available **Flash Point** : Not available **Auto-ignition Temperature** : Not available **Decomposition Temperature** : Not available Flammability (solid, gas) : Not available **Lower Flammable Limit** Not available **Upper Flammable Limit** : Not available **Vapor Pressure** Not available Relative Vapor Density at 20 °C Not available **Relative Density** : Not available **Specific Gravity** 1.15-1.30

Solubility : Water: Product partially dissolves very slowly in water.

Partition coefficient: n-octanol/water : Not available Viscosity : Not available

Explosive properties : Explosive; mass explosion hazard **Explosion Data – Sensitivity to Mechanical** : Sensitive to mechanical impact

Impact

Explosion Data – Sensitivity to Static : Static discharge could act as an ignition source.

Discharge

SECTION 10 - STABILITY AND REACTIVITY

Reactivity: Accelerates the rate of burning materials. Oxidizer. May react violently with strong acids, strong oxidizing and reducing agents.

Chemical Stability: Stable under recommended handling and storage conditions (see section 7).

Possibility of Hazardous Reactions: Extreme risk of explosion by shock, friction, fire, impact, heat or other sources of ignition.

Conditions to Avoid: Keep away from open flames, hot surfaces and sources of ignition. May explode from heat, shock, friction or contamination. avoid temperatures above 150°F (65.6°C).

Incompatible Materials: Strong acids. Strong bases. Oxidizers. Reducing agents. combustible materials. Alcohols. Chlorinated hydrocarbons. Detonates on contact with mercury fulminate.

Hazardous Decomposition Products: Toxic fumes. Carbon oxides (CO, CO₂). Nitrogen oxides. Oxides of aluminum.

SECTION 11 - TOXICOLOGICAL INFORMATION

Information on Toxicological Effects - Product

Acute Toxicity: Not classified

LD50 and LC50 Data: Not available

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Skin Corrosion/Irritation: Not classified

Serious Eye Damage/Irritation: Causes serious eye irritation.

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not available Carcinogenicity: Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: May cause respiratory irritation. Symptoms/Injuries After Skin Contact: May cause skin irritation. Symptoms/Injuries After Eye Contact: Causes serious eye irritation.

Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: Aluminum: Inhalation of finely divided aluminum powder may cause pulmonary fibrosis.

Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Sodium nitrate (7631-99-4)		
LD50 Oral Rat	1267 mg/kg	
ATE CLP (oral)	1267.000 mg/kg body weight	
Ammonium nitrate (6484-52-2)		
LD50 Oral Rat	2217 mg/kg	
LC50 Inhalation Rat	> 88.8 mg/l/4h	
ATE CLP (oral)	2217.000 mg/kg body weight	
Distillates, petroleum, chemically neutralized light naphthenic (64742-35-4)		
LD50 Oral Rat	> 5000 mg/kg	
LD50 Dermal Rabbit	> 2000 mg/kg	

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

Ecology - General: Harmful to aquatic life. Toxic to aquatic life with long lasting effects.

Sodium nitrate (7631-99-4)	
LC50 Fish 1	2000 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
LC 50 Fish 2	994.4 - 1107 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
Persistence and Degradability	
Sodium nitrate (7631-99-4)	
Persistence and Degradability	Readily biodegradable in water.
Bioaccumulative Potential	
Sodium nitrate (7631-99-4)	
Log Pow	-3.8 (at 25 °C)
Bioaccumulative Potential	Not expected to bioaccumulate.
Ammonium nitrate (6484-52-2)	
BCF fish 1	(no bioaccumulation expected)
Log Pow	-3.1 (at 25 °C)

Mobility in Soil Not available

Other Adverse Effects

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Other Information: Avoid release to the environment.



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SECTION 13 - «_SDS_EU_13\$Text»

Waste Treatment Methods: Consult supplier for specific recommendations.

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations. Refer to manufacturer/supplier for information on recovery/recycling **Additional Information:** Hazardous waste due to potential risk of explosion.

SECTION 14 - TRANSPORT INFORMATION

14.1 In Accordance with DOT

Proper Shipping Name : BOOSTERS without detonator

Hazard Class: 1.1DIdentification Number: UN0042Label Codes: 1.1D

Packing Group : II

Marine Pollutant : Not applicable

ERG Number : 112 14.2 In Accordance with IMDG

Proper Shipping Name : BOOSTERS

Hazard Class : 1.1D
Identification Number : UN0042
Label Codes : 1.1D
EmS-No. (Fire) : F-B
EmS-No. (Spillage) : S-X

Marine pollutant : Not applicable

MFAG Number : 112 14.3 In Accordance with IATA

Proper Shipping Name : BOOSTERS Identification Number : UN0042

Hazard Class : 1 Label Codes : 1.1D

ERG Code (IATA) : 1L 14.4 In Accordance with TDG

Proper Shipping Name : BOOSTERS without detonator

Packing Group : II
Hazard Class : 1.1D
Identification Number : UN0042
Label Codes : 1.1D

Marine Pollutant (TDG) : Not applicable









SECTION 15 - REGULATORY INFORMATION		
US Federal Regulations		
1146 Seispro dBX		
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard	
	Reactive hazard	
	Fire hazard	
Aluminum (7429-90-5)		
Listed on the United States TSCA (Toxic Substances Control Act) inventory		
Listed on SARA Section 313 (Specific toxic chemical listings)		
SARA Section 313 - Emission Reporting	1.0 % (dust or fume only)	
Sodium nitrate (7631-99-4)		

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Listed on the United States TSCA (Toxic Substances Control Act) inventory

Ammonium nitrate (6484-52-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Distillates, petroleum, chemically neutralized light naphthenic (64742-35-4)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

US State Regulations

Aluminum (7429-90-5)

- U.S. Massachusetts Right To Know List
- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. Pennsylvania RTK (Right to Know) Environmental Hazard List
- U.S. Pennsylvania RTK (Right to Know) List

Sodium nitrate (7631-99-4)

- U.S. Massachusetts Right To Know List
- U.S. Pennsylvania RTK (Right to Know) List

Ammonium nitrate (6484-52-2)

- U.S. Massachusetts Right To Know List
- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. Pennsylvania RTK (Right to Know) Environmental Hazard List
- U.S. Pennsylvania RTK (Right to Know) List

Canadian Regulations

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WHMIS Classification Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects

Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Class F - Dangerously Reactive Material

Note: Explosives are not regulated under WHMIS. They are subject to the regulations of the Explosives Act of Canada.







Aluminum (7429-90-5)

Listed on the Canadian DSL (Domestic Substances List) inventory.

Listed on the Canadian Ingredient Disclosure List

WHMIS Classification Class B Division 6 - Reactive Flammable Material

Class B Division 4 - Flammable Solid

Sodium nitrate (7631-99-4)

Listed on the Canadian DSL (Domestic Substances List) inventory.

Listed on the Canadian Ingredient Disclosure List

WHMIS Classification Class C - Oxidizing Material

Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Ammonium nitrate (6484-52-2)

Listed on the Canadian DSL (Domestic Substances List) inventory.

WHMIS Classification Class C - Oxidizing Material

Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Distillates, petroleum, chemically neutralized light naphthenic (64742-35-4)

Listed on the Canadian DSL (Domestic Substances List) inventory.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

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ı	SECTION 16:	OTHER INFORMATION	N. INCLUDING DATE OF PREPARATION OR LAST REV	JISION

Revision date : 07/20/2020

Other Information : This document has been prepared in accordance with the SDS requirements of the

OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4	
Asp. Tox. 1	Aspiration hazard Category 1	
Comb. Dust	Combustible Dust	
Expl. 1.1	Explosive Category 1.1	
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A	
Flam. Sol. 1	Flammable solids Category 1	
Ox. Sol. 3	Oxidizing solids Category 3	
Water-react. 2	Substances and mixtures which in contact with water emit flammable gases	
	Category 2	
H201	Explosive; mass explosion hazard	
H228	Flammable solid	
H232	May form combustible dust concentrations in air	
H261	In contact with water releases flammable gases	
H272	May intensify fire; oxidizer	
H302	Harmful if swallowed	
H304	May be fatal if swallowed and enters airways	
H319	Causes serious eye irritation	
IFDA Haalth Harand		

NFPA Health Hazard : 1 - Exposure could cause irritation but only minor

residual injury even if no treatment is given.

NFPA Fire Hazard : 3 - Liquids and solids that can be ignited under almost

all ambient conditions.

NFPA Reactivity : 3 - Capable of detonation or explosive reaction, but

requires a strong initiating source or must be heated

under confinement before initiation, or reacts

explosively with water.

NFPA Specific Hazard : OX - This denotes an oxidizer, a chemical which can

greatly increase the rate of combustion/fire.

Party Responsible for the Preparation of This Document

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