SECTION 1 – IDENTIFICATION	ann an all ta Da t	
Name, Address, and Telephone of the I	Responsible Party	
Dyno Nobel Inc.	-	SDS # : 1010
2795 East Cottonwood Parkway, Suite 50	0	Date: 05/23/2016
Salt Lake City, Utah 84121		Supersedes: New
Phone: 801-364-4800 Fax 801-321-6703		
E-Mail: dnna.hse@am.dynonobel.com		
www.dynonobel.com		
Product Identifier		
Product Form: Mixture		
Product Name: DYNO ANFO HS		
Other Means of Identification		
Product Class: ANFO, Bulk or Packaged	1	
Trade Names:		
DYNO ANFO HS		
Intended Use of the Product Industrial applications		
Emergency Telephone Number		
FOR 24 HOUR EMERGENCY, CALL CI	EMTREC (USA) 80	0-424-9300
		3-996-6666
SECTION 2 - HAZARD(S) IDENTIFIC	ATION	
Classification of the Substance or Mixt		
Classification (GHS-US)		
Expl. 1.5	H205	
Eye Irrit. 2A	H319	
Carc. 2	H351	
STOT RE 2	H373	
Label Elements		
GHS-US Labeling		
Hazard Pictograms (GHS-US)		
	GHS07 GHS08	
Signal Word (GHS-US)	: Danger	
Hazard Statements (GHS-US)	: H205 - May mass exp	lode in fire.
. ,	H319 - Causes seriou	
	H351 - Suspected of o	
		mage to organs through prolonged or repeated
	exposure.	
	0.4000101	
Precautionary Statements (GHS-US)	: P201 - Obtain special	instructions before use.
	•	until all safety precautions have been read and
	understood.	and an ourory procedutorio nevo boon road and
		m heat, hot surfaces, open flames, sparks No
		m near, nor sunaces, open names, sparks NO
	smoking.	
		ay from combustible materials.
		aution to avoid mixing with combustible materials.
		container and receiving equipment. Consult
		led guidance on appropriate grounding/bonding.
	P260 - Do not breathe	e dust, mist, vapors.
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505# 1010 Date. 03/23/2010		Page 1 of
		DWNO

Dyno Nobel Groundbreaking Performance

P264 - Wash hands, forearms and exposed areas thoroughly after handling. P273 - Avoid release to the environment. 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. P308+P313 - If exposed or concerned: Get medical advice/attention. P314 - Get medical advice/attention if you feel unwell. P337+P313 - If eye irritation persists: Get medical advice/attention. P370+P378 - In case of fire: Do NOT attempt to fight fire. 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 as defined in the Explosives Act of Canada and the provisions of the Bureau of Alcohol, Tobacco and Firearms regulations contained in 27 CFR Part 555.. P405 - Store locked up. P501 - Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

Other Hazards

Hazards Not Otherwise Classified (HNOC): Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Mixture			
Name	Product identifier	% (w/w)	Ingredient Classification (GHS-US)
Ammonium nitrate	(CAS No) 6484-52-2	89 - 95	Ox. Sol. 3, H272 Eye Irrit. 2A, H319
Fuels, diesel, no. 2	(CAS No) 68476-34-6	4 - 7	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Irrit. 2, H315 Carc. 2, H351 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 3, H402 Aquatic Chronic 2, H411
Urea	(CAS No) 57-13-6	2-4	Not Classified

More than one of the ranges of concentration prescribed by Controlled Products Regulations has been used where necessary, due to varying composition.

Ingredients, other than those mentioned above, as used in this product are not hazardous as defined under current Department of Labor regulations, or are present in deminimus concentrations (less than 0.1% for carcinogens, less than 1.0% for other hazardous materials).

Full text of H-phrases: see section 16

SECTION 4 - FIRST AID MEASURES

Description of First Aid Measures

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

Inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.

Skin Contact: Remove contaminated clothing and wash before reuse. Gently wash with plenty of soap and water.

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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 if irritation develops or persists.

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: May cause serious eye irritation. Contains material suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure.

Inhalation: May cause respiratory irritation.

Skin Contact: May cause skin irritation.

Eye Contact: May cause serious eye irritation.

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

Chronic Symptoms: Contains material suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure.

Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If ingested, causes methemoglobenemia – emergency response should treat appropriately, such as by intravenous administration of methylene blue.

SECTION 5 - FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: DO NOT FIGHT FIRES INVOLVING EXPLOSIVES.

Unsuitable Extinguishing Media: Do not attempt to fight fires involving explosive materials. Evacuate all personnel to a predetermined safe location, no less than 2,500 feet in all directions.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: Can explode or detonate under fire conditions. Burning material may produce toxic vapors.

Explosion Hazard: Explosion risk in case of fire. This product is an explosive with mass detonation hazard. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

Reactivity: Stable under normal conditions. May explode when subjected to fire, supersonic shock or high-energy projectile impact, especially when confined or in large quantities.

Advice for Firefighters

Firefighting Instructions: DO NOT ATTEMPT TO FIGHT FIRES INVOLVING EXPLOSIVE MATERIALS. Evacuate all personnel to a predetermined safe location, no less than 2,500 feet in all directions. Can explode or detonate under fire conditions. Burning material may produce toxic vapors.

Hazardous Combustion Products: Carbon Monoxide (CO) and Nitrogen Oxides (NOx)

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: Avoid all contact with skin, eyes, or clothing. Avoid breathing (vapor, mist, dust).

For Non-Emergency Personnel

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

Emergency Procedures: Evacuate unnecessary personnel.

For Emergency Personnel

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

Emergency Procedures: Stop release if safe to do so. Eliminate ignition sources. Ventilate area.

Environmental Precautions

Prevent entry to sewers and public waters.

Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes to prevent migration and entry into sewers or streams. Do not use combustible absorbents and do not mix with other materials.

Methods for Cleaning Up: Collect spillage for possible reuse. Clean up spills immediately and dispose of waste in accordance with appropriate Federal, State and local regulations.

Reference to Other Sections

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See heading 8, Exposure Controls and Personal Protection

SECTION 7 - HANDLING AND STORAGE

Precautions for Safe Handling

General: It is recommended that users of explosives material be familiar with the Institute of Makers of Explosives Safety Library publications.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and forearms thoroughly after handling. Do not eat, drink or smoke when using this product.

Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Contact manufacturer for appropriate grounding/bonding guidance. Comply with applicable regulations.

Storage Conditions: Store as defined in the Explosives Act of Canada and the provisions of the Bureau of Alcohol, Tobacco and Firearms regulations contained in 27 CFR Part 555. Store in a dry, cool and well-ventilated place. Keep/Store away from direct sunlight, extremely high or low temperatures, heat sources, ignition sources. Keep container closed when not in use. Store locked up.

Incompatible Materials: Strong acids. Strong bases. Strong oxidizers. Zinc. Copper and its alloys. Organic materials. Combustible materials.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), or OSHA (PEL). **Fuels, diesel, no. 2 (68476-34-6)**

Fuels, diesel, 110. 2 (004)	(0-34-0)	
USA ACGIH	ACGIH TWA (mg/m ³)	100 mg/m ³ (inhalable fraction and vapor)
USA ACGIH	ACGIH chemical category	Skin - potential significant contribution to overall
		exposure by the cutaneous route, Confirmed Animal
		Carcinogen with Unknown Relevance to Humans
Alberta	OEL TWA (mg/m ³)	100 mg/m ³
British Columbia	OEL TWA (mg/m ³)	100 mg/m ³ (aerosol, inhalable, and vapour)
Manitoba	OEL TWA (mg/m ³)	100 mg/m ³ (inhalable fraction and vapor)
Newfoundland &	OEL TWA (mg/m ³)	100 mg/m ³ (inhalable fraction and vapor)
Labrador		
Nova Scotia	OEL TWA (mg/m ³)	100 mg/m ³ (inhalable fraction and vapor)
Ontario	OEL TWA (mg/m ³)	100 mg/m ³ (inhalable fraction and vapor)
Prince Edward Island	OEL TWA (mg/m ³)	100 mg/m ³ (inhalable fraction and vapor)
Saskatchewan	OEL STEL (mg/m ³)	150 mg/m ³ (vapour)
Saskatchewan	OEL TWA (mg/m ³)	100 mg/m ³ (vapour)

Exposure Controls

Appropriate Engineering Controls: Emergency eye wash fountains and safety showers are recommended if exposure is likely. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed. **Personal Protective Equipment:** Gloves. Protective eyewear. Protective clothing. If insufficient ventilation, wear respiratory protection.



Materials for Protective Clothing: General work clothing to avoid skin contact.

Hand Protection: Wear chemically resistant protective gloves if exposure is likely.

Eye Protection: Wear suitable eye protection.

Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection: Use NIOSH-approved air-purifying or supplied-air respirator where airborne concentrations are

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expected to exceed exposure limits.

Environmental Exposure Controls: Do not allow the product to be released into the environment. **Consumer Exposure Controls:** Do not eat, drink or smoke during use.

SECTION 9 - PHYSICAL AND CHEMICAL	LP	ROPERTIES
Information on Basic Physical and Chemical	Pr	operties
Physical State	:	Solid
Appearance	:	Pale, oil-covered prills
Odor	:	Fuel oil
Odor Threshold	:	Not available
рН	:	Not available
Evaporation Rate	:	< 1 (butyl acetate = 1)
Melting Point	:	Not available
Freezing Point	:	Not available
Boiling Point	:	Not available
Flash Point	:	> 120 °F (> 49 °C)
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	:	< 5 mm Hg @ 75 °F (23.9 °C)
Relative Vapor Density at 20 °C	:	> 1 (air = 1)
Density	:	0.8 - 1.05 g/cc bulk density
Specific Gravity	:	Not available
Solubility	:	In Water: Ammonium Nitrate component completely soluble
Partition Coefficient: N-Octanol/Water	:	Not available
Viscosity	:	Not available
Explosive properties	:	Explosive; fire, blast or projection hazard
Explosion Data – Sensitivity to Mechanical Impact	:	Not expected to present an explosion hazard due to mechanical impact.
Explosion Data – Sensitivity to Static Discharge	:	Not expected to present an explosion hazard due to static discharge.

SECTION 10 - STABILITY AND REACTIVITY

Reactivity: May cause or intensify fire; oxidizer. May accelerate the burning of other combustible materials. Contact with organic material or combustible material may cause an explosive situation.

Chemical Stability: Stable under recommended handling and storage conditions (see section 7). May explode when subjected to fire, supersonic shock or high-energy projectile impact, especially when confined or in large quantities. **Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.

Conditions to Avoid: Direct sunlight. Extremely high or low temperatures. Heat. Sparks. Open flame. Overheating. **Incompatible Materials:** Strong acids. Strong bases. Strong oxidizers. Zinc. Copper and its alloys. Organic materials. Combustible materials.

Hazardous Decomposition Products: Carbon monoxide. Nitrogen oxides.

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 irrit Respiratory or Skin Sensitization: Not classified Germ Cell Mutagenicity: Not classified Teratogenicity: Not classified Carcinogenicity: Contains an ingredient suspected of ca Specific Target Organ Toxicity (Repeated Exposure):		
exposure.		
Reproductive Toxicity: Not classified		
Specific Target Organ Toxicity (Single Exposure): No	t classified	
Aspiration Hazard: Not classified	story irritation	
Symptoms/Injuries After Inhalation: May cause respira Symptoms/Injuries After Skin Contact: May cause skir		
Symptoms/Injuries After Eye Contact: May cause serie		
	o be harmful or have adverse effects. Overexposure to this	
material may result in methemoglobinemia. Methemoglobinemia decreases the blood's ability to carry oxygen and results		
in symptoms such as dizziness, drowsiness, headache, shortness of breath, blue skin and lips, rapid heart rate,		
unconsciousness, and possibly death.		
Chronic Symptoms: Contains an ingredient suspected of causing cancer. May cause damage to organs through		
prolonged or repeated exposure. Information on Toxicological Effects - Ingredient(s)		
LD50 and LC50 Data:		
Fuels, diesel, no. 2 (68476-34-6)		
LD50 Oral Rat	18.7 - 24.9 ml/kg	
LD50 Dermal Rabbit	> 4300 mg/kg	
ATE US (dust, mist) 3.60 mg/l/4h		
Urea (57-13-6)		
LD50 Oral Rat 8471 mg/kg		
Ammonium nitrate (6484-52-2)		
LD50 Oral Rat	2217 mg/kg	
LC50 Inhalation Rat	> 88.8 mg/l/4h	

SECTION 12: ECOLOGICAL INFORMATION	

Toxicity

Ecology - General: This material is hazardous to the aquatic environment. Keep out of sewers and waterways. **Ecology - Water:** Harmful to aquatic life with long lasting effects.

LC50 Fish 1	57 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])		
Persistence and Degradab	pility Not available		
Bioaccumulative Potential			
Urea (57-13-6)			
LC50 Fish 1	16200 - 18300 mg/l (Exposure time: 96 h - Species: Poecilia reticulata)		
EC50 Daphnia 1	3910 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])		
Ammonium nitrate	(6484-52-2)		
Ammonium nitrate BCF fish 1	(no bioaccumulation expected)		

Other Adverse Effects

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Other Information: Avoid release to the environment.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Treatment Methods: Contact manufacturer for advice on proper disposal methods. Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations. Additional Information: Clean up even minor leaks or spills if possible without unnecessary risk.

SECTION 14 - TRANSPORT INFORMATION

OLOHON IT INANOIO	
In Accordance with DOT Proper Shipping Name Hazard Class Identification Number Label Codes	: EXPLOSIVE, BLASTING, TYPE B (AGENT, BLASTING, TYPE B) : 1 : UN0331 : 1.5D
Packing Group ERG Number	: II : 112
In Accordance with IMDG Proper Shipping Name Hazard Class Identification Number Label Codes EmS-No. (Fire) EmS-No. (Spillage)	EXPLOSIVE, BLASTING, TYPE B (AGENT, BLASTING, TYPE B) 1 UN0331 1.5D F-B S-Y
In Accordance with IATA Proper Shipping Name Identification Number Hazard Class Label Codes	EXPLOSIVE, BLASTING, TYPE B UN0331 1 1.5D
ERG Code (IATA) In Accordance with TDG Proper Shipping Name Packing Group Hazard Class Identification Number Label Codes	: 1L : EXPLOSIVE, BLASTING, TYPE B : II : 1.5D : UN0331 : 1.5D

SECTION 15 - REGULATORY INFORMATION	
US Federal Regulations	
ANFO HS	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
	Delayed (chronic) health hazard
	Sudden release of pressure hazard
	Fire hazard
Fuels, diesel, no. 2 (68476-34-6)	
Listed on the United States TSCA (Toxic Substance	s Control Act) inventory
Ammonium nitrate (6484-52-2)	
Listed on the United States TSCA (Toxic Substance	s Control Act) inventory
Urea (57-13-6)	

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Listed on the United States	TSCA (Taxia Substances Control Act) inventory
<u> </u>	STSCA (Toxic Substances Control Act) inventory
US State Regulations	
Fuels, diesel, no. 2	
	gulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
	gulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
	ge Prevention - List of Hazardous Substances
	mental Hazardous Substances List
	tight to Know Hazardous Substance List
	sumer Products - Initial List of Candidate Chemicals and Chemical Groups
U.S Texas - Effects Scree	
U.S Texas - Effects Scree	
Ammonium nitrate	
	Contaminant List (AB 1807, AB 2728)
	Release Prevention Regulations - Sufficient Quantities
	Discharge Requirements - Reportable Quantities
	Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
	Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
	Hazardous Material List - Reportable Quantity
	Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
	Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
RTK - U.S Massachusetts	0
	tight to Know Hazardous Substance List
	Health Hazards Substances List
	RTK (Right to Know) - Environmental Hazard List
RTK - U.S Pennsylvania -	
U.S Texas - Effects Scree	
U.S Texas - Effects Scree Fuels, diesel, no. 2	
	Know Hazardous Substance List
Ammonium nitrate	
U.S Massachusetts - Righ	
	Know Hazardous Substance List
	Right to Know) - Environmental Hazard List
U.S Pennsylvania - RTK (o
Canadian Regulations	
DYNO ANFO HS	
WHMIS Classification	Note: Explosives are not regulated under WHMIS. They are subject to the
	regulations of the Explosives Act of Canada.
Fuels, diesel, no. 2	
	(Domestic Substances List)
WHMIS Classification	Class B Division 3 - Combustible Liquid
	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects
	Class D Division 2 Subdivision B - Toxic material causing other toxic effects
	Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic
	effects
Ammonium nitrate	
	(Domestic Substances List)
WHMIS Classification	Class C - Oxidizing Material
	Class D Division 2 Subdivision B - Toxic material causing other toxic effects
Urea (57-13-6)	
	. (Domestic Substances List)

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	d in accordance with the hazard criteria of the Controlled Products Regulations (CPR) an
e SDS contains all of the infor	mation required by CPR.
	RMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION
evision Date	: 05/23/2016
ther Information	: This document has been prepared in accordance with the SDS requirements of th OSHA Hazard Communication Standard 29 CFR 1910.1200.
HS Full Text Phrases:	OSHA Hazaru Communication Stanuaru 29 CFK 1910.1200.
Acute Tox. 4	Acute toxicity (inhalation:dust,mist) Category 4
(Inhalation:dust,mist)	Tode toxiony (initiation.duot,initi) Outogory 4
Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Asp. Tox. 1	Aspiration hazard Category 1
Carc. 2	Carcinogenicity Category 2
Comb. Dust	May form combustible dust concentrations in air
Expl. 1.5	Explosive Category 1.5
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 3	Flammable liquids Category 3
Ox. Sol. 3	Oxidizing solids Category 3
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
H205	May mass explode in fire
H272	May intensify fire; oxidizer
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H319	Causes serious eye irritation
H332	Harmful if inhaled
H351	Suspected of causing cancer
H373	May cause damage to organs through prolonged or repeated exposure

2795 East Cottonwood Parkway, Suite 500 Salt Lake City, Utah 84121 Phone: 801-364-4800

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