Safety Data Sheet

SECTION 1 – IDENTIFICATION

Name, Address, and Telephone of the Responsible Party

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SDS #: 1052
Date: 10/25/2022
Supersedes: 07/20/2020

Product Identifier

Product Form: Mixture

Product Name: Bulk Emulsion

Other Means of Identification

Synonyms:

DYNO GOLD®	TITAN® 2000
DYNO GOLD® LITE	TITAN® 2000 G
EXTRAMITE 1000	TITAN® PB 1000
RUG-1 (Canada Only)	TITAN® PB 2000
TITAN® 1000	TITAN® PB 2000 HF
TITAN® 1000 GREEN	TITAN® SME 1000
TITAN® 1000 G	TITAN® SME 1000 GREEN
TITAN® 1000 G GREEN	TITAN® SME 2000
TITAN® XL 1000	TITAN® 5000
TITAN® XL 1000 GREEN	TITAN® 5000 G
TITAN® 1000 ΔE	TITAN® XL 5000
SMS 1116, 1116A, 1126P, 1136P, 1146P	TITAN® 5000 ΔE
DX5037	TITAN® 7000 G
TITAN® HD	TITAN® 7000 SX G

Intended Use of the Product

Industrial blasting applications as emulsion explosive precursor

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)

Ox. Liq. 2	H272
Acute Tox. 4 (Oral)	H302
Skin Irrit. 2	H315
Carc. 2	H351
STOT RE 2	H373
Asp. Tox. 1	H304
Eye Irrit. 2B	H320

Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US) :

GHS03 GHS07 GHS08

Signal Word (GHS-US) : Danger

Hazard Statements (GHS-US) : H272 - May intensify fire; oxidizer
H302 - Harmful if swallowed
H304 – May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H320 – Causes eye irritation
H351 - Suspected of causing cancer
H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary Statements (GHS-US) : P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking
P220 - Keep/Store away from clothing, combustible materials, combustibles
P221 - Take any precaution to avoid mixing with combustible materials, clothing, combustibles
P233 - Keep container tightly closed
P260 - Do not breathe dust, fume, mist, spray, vapors
P264 - Wash exposed areas thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P273 - Avoid release to the environment
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P302+P352 - IF ON SKIN: Wash with plenty of soap and water
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
P332+P313 - If skin irritation occurs: Get medical advice/attention
P362 - Take off contaminated clothing and wash before reuse
P370+P378 - In case of fire: Use appropriate media to extinguish
P403+P235 - Store in a well-ventilated place. Keep cool
P405 - Store locked up
P501 - Dispose of contents/container according to local, regional, national, and international regulations

Other Hazards

Hazards Not Otherwise Classified (HNOC): Not available

Other Hazards: 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	45 - 80	Ox. Sol. 3, H272 Eye Irrit. 2A, H319
Calcium nitrate	(CAS No) 10124-37-5	0.1 - 35	Ox. Sol. 3, H272 Acute Tox. 4 (Oral), H302

			Eye Dam. 1, H318
Sodium nitrate	(CAS No) 7631-99-4	0.1 - 18	Ox. Sol. 3, H272 Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319
*Fuels, diesel, no. 2	(CAS No) 68476-34-6	0.1 - 10	Flam. Liq. 4, H227 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Carc. 2, H351 STOT RE 2, H373 Asp. Tox. 1, H304
Distillates, petroleum, chemically neutralized light naphthenic	(CAS No) 64742-35-4	0.1 - 6	Asp. Tox. 1, H304

* This ingredient is not used in GREEN-named products.
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 orally to an unconscious person. If you feel unwell, seek medical advice (provide this Safety Data Sheet to medical personnel).

Inhalation: If symptoms occur, go into fresh air and ventilate suspected area. Seek medical attention.

Skin Contact: Remove contaminated clothing. Wash with soap and water followed by rinsing with water. Seek medical attention if irritation develops or persists. Wash contaminated clothing before reuse.

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

Ingestion: Rinse mouth. Do NOT induce vomiting. Seek medical attention immediately.

Most Important Symptoms and Effects Both Acute and Delayed

General: May be harmful if swallowed. May cause eye or skin irritation.

Inhalation: May cause respiratory irritation.

Skin Contact: May cause skin irritation.

Eye Contact: May cause eye irritation.

Ingestion: Likely to be harmful if swallowed.

Chronic Symptoms: Contains an ingredient which may cause cancer. Causes damage to organs through prolonged or repeated exposure.

Indication of Any Immediate Medical Attention and Special Treatment Needed

If symptoms occur, seek medical attention.

SECTION 5 - FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Do not attempt to fight fires involving explosive materials or emulsion explosive precursors. Evacuate all personnel to a predetermined safe location, no less than 1/2 mile (800 meters) in all directions.

Unusual Fire and Explosion Hazards: May explode or detonate under fire conditions. Burning material may produce toxic vapors.

Unsuitable Extinguishing Media: Not available

Special Hazards Arising from the Substance or Mixture

In large, intense fires the emulsion can behave more like an explosive and detonate from confinement or strong shocks. Evacuation of at least 1 mile is recommended if a largeamount of emulsion is involved in a large fire.

Fire Hazard: May intensify fire; oxidizer. Will burn if exposed to heat, and in addition, will accelerate the burning of other combustibles, resulting in more rapid spread of fire.
Explosion Hazard: Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries. May explode when subjected to fire, supersonic shock or high-energy projectile impact, especially when confined or in large quantities.
Reactivity: May cause or intensify fire; oxidizer. May accelerate the burning of other combustible materials.
Advice for Firefighters
Precautionary Measures Fire: DO NOT ATTEMPT TO FIGHT FIRES INVOLVING EXPLOSIVE MATERIALS. Evacuate all personnel to a predetermined safe location, no less than 1/2 mile (800 meters) in all directions. Can explode or detonate under fire conditions. Burning material may produce toxic vapors.

Firefighting Instructions: DO NOT ATTEMPT TO FIGHT FIRE. Immediately evacuate all personnel from the area to a safe distance. Guard against re-entry. Thermal decomposition can lead to release of irritating gases and vapors.
Protection During Firefighting: When controlling fire before involvement of explosives or explosive precursors, fire-fighters should wear positive pressure self-containing breathing apparatus (SCBA) and full turnout gear.
Hazardous Combustion Products: Nitrogen oxides. Carbon oxides (CO, CO_2). Ammonia.
Other information: Do not attempt to fight fires involving explosive materials or emulsion explosive precursors. Evacuate all personnel to a predetermined safe location, no less than 1/2 mile (800 meters) in all directions.
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 dust, mist, or spray. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Eliminate every possible source of ignition. Evacuate danger area.
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: 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 as necessary to prevent migration and entry into sewers or streams. Do not take up in combustible material such as: saw dust or cellulosic material.
Methods for Cleaning Up: Collect spillage for possible reuse. Clean up spills immediately and dispose of waste in accordance with appropriate state, federal and local regulations.
Reference to Other Sections
See heading 8, Exposure Controls and Personal Protection

SECTION 7 - HANDLING AND STORAGE

Precautions for Safe Handling
It is recommended that users of explosives material be familiar with the Institute of Makers of Explosives Safety Library publications.
Additional Hazards When Processed: When heated to decomposition, emits toxic fumes. Do not puncture or incinerate containers.
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.
Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep /store away from combustible materials, extremely high or low temperatures, direct sunlight, ignition sources, incompatible materials.
Incompatible Materials: Corrosives, strong acids, strong bases and alkalis.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Occupational Exposure Limits

Ingredients:	Product identifier:	ACGIH TLV-TWA	OSHA PEL-TWA
Ammonium nitrate	(CAS No) 6484-52-2	None	None
Sodium nitrate	(CAS No) 7631-99-4	None	None
Calcium nitrate	(CAS No) 10124-37-5	None	None
Methylamine nitrate	(CAS No) 22113-87-7	None	None
Fuels, diesel, no. 2	(CAS No) 68476-34-6	100 ppm	None
Distillates, petroleum, chemically neutralized light naphthenic	(CAS No) 64742-35-4	5 mg/m^3 (mist)	None

Exposure Controls
Under normal conditions of use, over-exposure is not expected to occur.
Appropriate Engineering Controls: Ensure all national/local regulations are observed. Ensure adequate ventilation, especially in confined areas. Keep containers tightly sealed.
Personal Protective Equipment: Protective goggles. Gloves. Protective clothing.

Materials for Protective Clothing: Chemically resistant materials and fabrics.
Hand Protection: Wear chemically resistant protective gloves.
Eye Protection: Chemical goggles or face shield.
Skin and Body Protection: Not available.
Respiratory Protection: Use NIOSH-approved air-purifying or supplied-air respirator where airborne concentrations of vapor or mist are expected to exceed exposure limits. Under normal conditions of use and handling there is minimal likelihood for the this exposure limit to be reached.
Other Information: When using or handling, do not eat, drink or smoke.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State	:	Liquid
Appearance	:	Translucent to opaque viscous liquid.
Odor	:	Fuel
Odor Threshold	:	Not available
pH	:	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	:	0.8 - 1.5 g/cc
Solubility	:	Water: Nitrate salts are completely soluble, but emulsion dissolution is very slow.
Partition coefficient: n-octanol/water	:	Not available
Viscosity	:	Not available
Explosion Data – Sensitivity to Mechanical Impact	:	Not sensitive to mechanical impact. May be sensitive to supersonic explosively driven projectile impacts.
Explosion Data – Sensitivity to Static Discharge	:	Not sensitive to static discharge.

SECTION 10 - STABILITY AND REACTIVITY

Reactivity: May cause or intensify fire. May accelerate the burning of other combustible materials.

Chemical Stability: May intensify fire. 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 temperatures. Heat. Sparks. Overheating. Open flame. Combustible materials. Sources of ignition. Incompatible materials.

Incompatible Materials: Corrosives, strong acids, strong bases and alkalis.

Hazardous Decomposition Products: Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Nitrogen oxides. Toxic vapors. Ammonia. Carbon monoxide.

SECTION 11 - TOXICOLOGICAL INFORMATION

Under normal conditions of use, over-exposure is not expected to occur. Minor skin exposure is most likely.

Information on Toxicological Effects - Product

Acute Toxicity: Harmful if swallowed.

LD50 and LC50 Data: ATE Oral 1,510 (mg/kg)

Skin Corrosion/Irritation: Causes skin irritation.

Serious Eye Damage/Irritation: May cause eye irritation

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not available

Carcinogenicity: Contains a substance which has been shown to cause cancer in laboratory animals. IARC Group 2A Probably carcinogenic to humans.

Specific Target Organ Toxicity (Repeated Exposure): May cause damage to organs through prolonged or repeated exposure.

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Hazard: May be fatal if swallowed and enters airways.

Symptoms/Injuries After Inhalation: May cause respiratory irritation.
Symptoms/Injuries After Skin Contact: May cause skin irritation.
Symptoms/Injuries After Eye Contact: May cause eye irritation.
Symptoms/Injuries After Ingestion: May be harmful if swallowed. May be harmful if swallowed and enters airways. Aspiration into the lungs can occur during ingestion or vomiting and may cause lung injury.
Chronic Symptoms: May cause cancer. May cause damage to organs through prolonged or repeated exposure.
Information on Toxicological Effects - Ingredient(s)
LD50 and LC50 Data:

Ammonium nitrate (6484-52-2)	
LD50 Oral Rat	2217 mg/kg (REACH dossier 2950 mg/kg)
LC50 Inhalation Rat	> 88.8 mg/l/4h
ATE CLP (oral)	2217.000 mg/kg body weight

Sodium nitrate (7631-99-4)	
LD50 Oral Rat	1267 mg/kg (REACH dossier 3430 mg/kg)
ATE CLP (oral)	1267.000 mg/kg body weight

Fuels, diesel, no. 2 (68476-34-6)	
ATE CLP (vapors)	11.000 mg/l/4h

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 Harmful to aquatic life with long lasting effects.

Ammonium nitrate (6484-52-2)	
LC50 Fish 1	95-102 mg/l (Exposure time: 48 h - Cyprinus carpio (Common carp))
EC 50 Aquatic Invertebrates	490 mg/l (Exposure time 48 h - Daphnia magna)

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])

Fuels, diesel, no. 2 (68476-34-6)	
LC50 Fish 1	35 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])

Calcium nitrate (10124-37-5)	
LC50 Fish 1	10000 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])

Persistence and Degradability

Bulk Emulsion	
Persistence and Degradability	Not established.

Sodium nitrate (7631-99-4)	
Persistence and Degradability	**Readily biodegradable in water.**

Bioaccumulative Potential

Bulk Emulsion	
Bioaccumulative Potential	Not established.

Ammonium nitrate (6484-52-2)	
BCF fish 1	(no bioaccumulation expected)
Log Pow	-3.1 (at 25 °C)

Sodium nitrate (7631-99-4)	
Log Pow	-3.8 (at 25 °C)
Bioaccumulative Potential	Not expected to bioaccumulate.

Mobility in Soil Not available
Other Adverse Effects
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: Collect spillage for possible reuse. 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

14.1 In Accordance with DOT

Proper Shipping Name : AMMONIUM NITRATE EMULSION
Hazard Class : 5.1
Identification Number : UN3375
Label Codes : 5.1

Packing Group : II
ERG Number : 140

14.2 In Accordance with IMDG

Proper Shipping Name : AMMONIUM NITRATE EMULSION
Hazard Class : 5.1
Identification Number : UN3375
Packing Group : II
Label Codes : 5.1
EmS-No. (Fire) : F-H
EmS-No. (Spillage) : S-Q

14.3 In Accordance with IATA

Proper Shipping Name : AMMONIUM NITRATE EMULSION
Identification Number : UN3375
Hazard Class : 5
Label Codes : 5.1

ERG Code (IATA) : 5L

14.4 In Accordance with TDG

No UN number exists for blasting intermediates for Transport Canada (use the following for Canadian shipments)

Proper Shipping Name : EXPLOSIVE, BLASTING, TYPE E
Packing Group : II
Hazard Class : 1.5D
Identification Number : UN0332
Label Codes : 1.5D

SECTION 15 - REGULATORY INFORMATION

US Federal Regulations

Bulk Emulsion	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Reactive hazard Delayed (chronic) health hazard Fire hazard

Ammonium nitrate (6484-52-2)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Sodium nitrate (7631-99-4)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Fuels, diesel, no. 2 (68476-34-6)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Calcium nitrate (10124-37-5)
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

Ammonium nitrate (6484-52-2)
U.S. – California – Air Toxics “Hot Spots” (A-I) 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 U.S. – Rhode Island – 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 U.S. – Rhode Island – RTK (Right to Know) List

Fuels, diesel, no. 2 (68476-34-6)
U.S. - New Jersey - Right to Know Hazardous Substance List

Calcium nitrate (10124-37-5)
U.S. - New Jersey - Right to Know Hazardous Substance List

Canadian Regulations

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

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.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision date : 10/25/2022

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 (Inhalation)	Acute toxicity (inhalation) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Asp. Tox. 1	Aspiration hazard Category 1

Carc. 2	Carcinogenicity Category 2
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 3	Flammable liquids Category 3
Ox. Liq. 2	Oxidizing liquids Category 2
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
H227	Combustible liquid
H272	May intensify fire; oxidizer
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H318	Causes serious eye damage
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
H373	May cause damage to organs (Thymus, Liver, bone marrow) through prolonged or repeated exposure

Party Responsible for the Preparation of This Document

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