

Material Safety Data Sheet

Dyno Nobel Inc.

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MSDS # 1062

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SECTION I - PRODUCT IDENTIFICATION

Trade Name(s):	DYNO GOLD® AP LD	RUS
	DYNO GOLD® B LD	RUS-C
	DYNO GOLD® B SD	TITAN® 1000 LD-E2
	DYNO GOLD® C LD	TITAN® 1000 LD
	DYNO GOLD® C SD	TITAN® 1000 SD
	DYNO GOLD® LD	TITAN® 1000 LD GREEN
	DYNO GOLD® SD	TITAN® 1000 SD GREEN
	DYNO® RU	TITAN® PB 1000 LD
	DYNO® RU-A	TITAN® PB 1000 SD
	DYNO® RU-B	TITAN® 2000 LD
	DYNO® RU Alaska	TITAN® 2000 SD
	DYNO® RU SX	TITAN® PB 2000 LD
	DYNO® RU Uphole	TITAN® PB 2000 SD
	EXTRAMITE 2000	TITAN® 7000 RU
	FRAGMITE	TITAN® 7000 RU-A
	RD-5™	TITAN® 7000 RU-SX
	RUG	1136

Product Class: Emulsion Explosives, Bulk

Product Appearance & Odor: White, yellow or pink opaque viscous liquid. Slight fuel oil odor.

DOT Hazard Shipping Description: UN0332 Explosive, blasting, type E 1.5D II

NFPA Hazard Classification: Not Applicable (See Section IV - Special Fire Fighting Procedures)

SECTION II - HAZARDOUS INGREDIENTS

<u>Ingredients:</u>	<u>CAS#</u>	<u>% (Range)</u>	<u>Occupational Exposure Limits</u>	
			<u>ACGIH TLV-TWA</u>	<u>OSHA PEL-TWA</u>
Ammonium Nitrate	6484-52-2	30-80	None	None
Sodium Nitrate	7631-99-4	0-15	None	None
Calcium Nitrate	10124-37-5	0-35	None	None
Fuel Oil*	68476-34-6	0-8	100 ppm	None
Mineral Oil	64742-35-4	0-6	5 mg/m ³ (mist)	None

*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 de minimus concentrations (less than 0.1% for carcinogens, less than 1.0% for other hazardous materials).

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SECTION III - PHYSICAL DATA

Boiling Point: Not Applicable
Vapor Density: (Air = 1) Not Applicable
Percent Volatile by Volume: <30

Vapor Pressure: Not Applicable
Density: 1.00 - 1.45 g/cc
Solubility in Water: Nitrate salts are completely soluble, but emulsion dissolution is very slow.

Evaporation Rate (Butyl Acetate = 1): <1

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point: Not Applicable
Extinguishing Media: (See Special Fire Fighting Procedures Section)
Special Fire Fighting Procedures: 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.
Unusual Fire and Explosion Hazards: May explode or detonate under fire conditions. Burning material may produce toxic vapors.

Flammable Limits: Not Applicable

SECTION V - HEALTH HAZARD DATA

Effects of Overexposure

Eyes: Can cause irritation, redness and tearing.
Skin: Prolonged contact may cause irritation.
Ingestion: Large amounts may be harmful if swallowed.
Inhalation: May cause dizziness, nausea or intestinal upset.
Systemic or Other Effects: None known.

Emergency and First Aid Procedures

Eyes: Irrigate with running water for at least fifteen minutes. If irritation persists, seek medical attention.
Skin: Remove contaminated clothing. Wash with soap and water.
Ingestion: Seek medical attention.
Inhalation: Remove to fresh air. If irritation persists, seek medical attention.
Special Considerations: None.

SECTION VI - REACTIVITY DATA

Stability: Stable under normal conditions. May explode when subjected to fire, supersonic shock or high-energy projectile impact, especially when confined or in large quantities.
Conditions to Avoid: Keep away from heat, flame, ignition sources and strong shock.
Materials to Avoid (Incompatibility): Corrosives (strong acids and strong bases or alkalis).
Hazardous Decomposition Products: Nitrogen Oxides (NO_x), Carbon Monoxide (CO)
Hazardous Polymerization: Will not occur.

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SECTION VII - SPILL OR LEAK PROCEDURES

Steps to be taken in Case Material is Released or Spilled: Protect from all ignition sources. In case of fire evacuate area not less than 2,500 feet in all directions. Notify authorities in accordance with emergency response procedures. Only personnel trained in emergency response should respond. If no fire danger is present, and product is undamaged and/or uncontaminated, repackage product in original packaging or other clean DOT approved container. Ensure that a complete account of product has been made and is verified. Follow applicable Federal, State and local spill reporting requirements.

Waste Disposal Method: Disposal must comply with Federal, State and local regulations. If product becomes a waste, it is potentially regulated as a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR, part 261. Review disposal requirements with a person knowledgeable with applicable environmental law (RCRA) before disposing of any explosive material.

SECTION VIII - SPECIAL PROTECTION INFORMATION

Ventilation: Not required for normal handling.

Respiratory Protection: None normally required.

Protective Clothing: Gloves and work clothing that reduce skin contact are suggested.

Eye Protection: Safety glasses are recommended.

Other Precautions Required: None.

SECTION IX - SPECIAL PRECAUTIONS

Precautions to be taken in handling and storage: Store in cool, dry, well-ventilated location. Store in compliance with Federal, State and local regulations. Keep away from heat, flame, ignition sources and strong shock.

Precautions to be taken during use: Avoid breathing the fumes or gases from detonation of explosives. Use accepted safe industry practices when using explosive materials. Unintended detonation of explosives or explosive devices can cause serious injury or death.

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

SECTION X - SPECIAL INFORMATION

The reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372 may become applicable if the physical state of this product is changed to an aqueous solution. If an aqueous solution of this product is manufactured, processed, or otherwise used, the nitrate compounds category and ammonia listings of the previously referenced regulation should be reviewed.

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