

# Material Safety Data Sheet

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CANUTEC (CANADA) 613-996-6666**MSDS # 1108****Date 12/20/12**

Supersedes

MSDS # 1108 12/15/11

## SECTION I - PRODUCT IDENTIFICATION

**Trade Name(s):**DYNO<sup>®</sup> CORD SENSITIVE BOOSTERS - CS35, CS45, CS90, CS135  
TROJAN<sup>®</sup> SPARTAN<sup>®</sup>  
TROJAN<sup>®</sup> SPARTAN<sup>®</sup> Slider  
TROJAN<sup>®</sup> Stinger  
TROJAN<sup>®</sup> NB  
TROJAN<sup>®</sup> NB UNIVERSAL  
TROJAN<sup>®</sup> Twinplex  
TROJAN<sup>®</sup> SPARTAN<sup>®</sup> SR**Product Class:** Cast Boosters**Product Appearance & Odor:** Tan to brown solid with no odor. May also be silvery gray. Packaged in paper or plastic tube.**DOT Hazard Shipping Description:** Booster 1.1D UN0042 II**NFPA Hazard Classification:** Not Available (See Section IV - Special Fire Fighting Procedures)

## SECTION II - HAZARDOUS INGREDIENTS

<b>Ingredients:</b>	<b>CAS#</b>	<b>% (Range)</b>	<b>Occupational Exposure Limits</b>	
			<b>ACGIH TLV-TWA</b>	<b>OSHA PEL-TWA</b>
Pentaerythritol Tetranitrate (PETN)	78-11-5	35-70	None Established	None Established
Trinitrotoluene	118-96-7	30-50	0.1 mg/m <sup>3</sup> (skin)	1.5 mg/m <sup>3</sup> (skin)
RDX	121-82-4	0-25	0.5 mg/m <sup>3</sup> (skin)	1.5 mg/m <sup>3</sup> (skin)
HMX	2691-41-0	0-5	None Established	None Established
Aluminum	7429-90-5	0-15	10 mg/m <sup>3</sup> (dust)	15 mg/m <sup>3</sup> (total)

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

**Melting Point:** 176° F (80° C) (TNT)

**Vapor Density:** Not applicable

**Percent Volatile by Volume:** Not applicable

**Evaporation Rate (Butyl Acetate = 1):** Not applicable

**Vapor Pressure:** 0.042mm Hg at 80° C (TNT)

**Density:** 1.55 - 1.65 g/cc

**Solubility in Water:** < 0.01%

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

**Flash Point:** Not applicable

**Flammable Limits:** 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:** Can explode or detonate under fire conditions. Burning material may produce toxic vapors.

## SECTION V - HEALTH HAZARD DATA

### Effects of Overexposure

**Eyes:** Particulates in the eye may cause irritation, redness, and tearing. Prolonged or repeated contact may cause cataracts, optic neuritis, blurred vision or amblyopia.

**Skin:** Prolonged contact may cause irritation, severe eczema and sensitization dermatitis. TNT may be absorbed through the skin, which may be indicated by orange staining on exposed skin. See systemic effects below.

**Ingestion:** Harmful if swallowed. See systemic effects below.

**Inhalation:** Inhalation of dusts may cause irritation, sneezing or coughing. See systemic effects below.

**Systemic or Other Effects:** TNT is an irritant, neurotoxin, hepatotoxin, nephrotoxin and bone marrow depressant. Although exposure is unlikely, acute or chronic exposure may cause sensitization dermatitis, headache, dizziness, jaundice, lethargy, or problems with the liver or blood such as toxic nephritis, aplastic anemia, hemolytic anemia or methemoglobin formation. PETN is a known coronary vasodilator, and ingestion or inhalation may result in a lowering of blood pressure, headache or faintness, and a decreased tolerance for grain alcohol. Repeated over-exposure may result in chest pains in the absence of exposure.

### 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 skin thoroughly with soap and water.

**Ingestion:** Seek medical attention.

**Inhalation:** In case of irritation, remove to fresh air. Seek medical attention if chronic symptoms occur.

**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, friction, impact, ignition sources and strong shock.

**Materials to Avoid (Incompatibility):** Corrosives (strong acids and bases or alkalis).

**Hazardous Decomposition Products:** Nitrogen Oxides (NO<sub>x</sub>), 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:** Non-permeable gloves and work clothing that reduce skin contact are recommended.

**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 location. Store in compliance with all Federal, State and local regulations. Keep away from heat, flame, ignition sources or 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

This product contains the following substances that are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

<u>Chemical Name</u>	<u>CAS Number</u>	<u>% By Weight</u>
None Applicable		

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