



# Material Safety Data Sheet

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## SECTION 1 – PRODUCT AND COMPANY INFORMATION

**Supplier(s):**

Orica Canada Inc.  
Maple Street  
Brownsburg, QC  
For MSDS Requests: 1-450-533-4201

Orica USA Inc  
33101 E Quincy Ave  
Watkins, CO 80137-9406  
For MSDS Requests: 1-303-268-5000

**Manufacturer:**

BST Manufacturing, Inc.  
924 Hawaii Avenue  
Minden, LA. 71055  
1-318-382-1226

**Product Name:**

**Pentex™, BST™, Osx™ & ProTECT-I™ Cast Boosters**

**Product Code:**

20083

**Alternate Name(s):**

BST™MPB, BST™-D, Pentex™ CSL, Pentex™ DUO, Pentex™ AP, Pentex™ SB, Pentex™-D, Pentex™ CD, BSX and Osx™ 8 Seismic Boosters, Osx™ 8 L, Seismic Boosters, Pentex™ SL, ProTECT-i 12\*340

**UN-No:**

UN0042

**Recommended Use:**

Used for initiation of explosive mixtures.

**Emergency Telephone Number:** FOR CHEMICAL EMERGENCIES (24 HOUR) INVOLVING TRANSPORTATION, SPILL, LEAK, RELEASE, FIRE OR ACCIDENTS: **IN CANADA CALL:** ORICA CANANDA TRANSPORTATION EMERGENCY RESPONSE SYSTEM AT **1-877-561-3636**. **IN US CALL:** CHEMTREC **1-800-424-9300**. **IN THE U.S.** FOR LOST, STOLEN OR MISPLACED EXPLOSIVES CALL: BATFE **1-800-800-3855**. FORM ATF F5400.0 MUST BE COMPLETED AND LOCAL AUTHORITIES (STATE/MUNICIPAL POLICE, ETC.) MUST BE ADVISED.

## SECTION 2 – HAZARD IDENTIFICATION

**Emergency Overview:**

Danger. Risk of explosion by shock, fire or other sources of ignition. Irritating to eyes, respiratory system and skin.

**Appearance:**

Tan to brown

**Physical State:**

Solid

**Odor:**

None

## SECTION 3 – COMPOSITION/ INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
2,4,6-Trinitrotoluene (TNT)	118-96-7	30-90
Cyclotrimethylene Trinitramine (RDX)	121-82-4	0-70
Pentaerythritol Tetranitrate (PETN)	78-11-5	0-60
Aluminum	7429-90-5	0-15
Enzymes	9014-01-1	0-5
Enzymes	9000-90-2	0-5

## SECTION 4- FIRST AID MEASURES

**General Advice:**

Not applicable; this is a packaged product that will not result in exposure to the contents under normal conditions of use. In the event of contact, administer first aid appropriate for symptoms present.

**Eye Contact:**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**Skin Contact:**

Wash off immediately with soap and plenty of water, removing all contaminated clothes and shoes. If skin irritation persists, call a physician.

**Inhalation:**

Move victim to fresh air. Give artificial respiration ONLY if breathing has stopped. Give cardiopulmonary resuscitation (CPR) if there is not breathing AND no pulse. Obtain medical advice IMMEDIATELY.

**Ingestion:** Rinse mouth. Harmful if swallowed. Seek medical attention IMMEDIATELY.

**Notes to Physician:** No information available.

## SECTION 5 – FIRE-FIGHTING MEASURES

**Flammable properties:** Product burns if ignited, with possible transition to detonation. May ignite or explode if heated under confinement.

**Suitable extinguishing media:** DO NOT FIGHT FIRES INVOLVING EXPLOSIVES. Evacuate surrounding areas. When controlling fire before involvement of explosives, fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear. Water may be applied through fixed extinguishing system (sprinklers) as long as people need not be present for the system to operate. Water may be used on small fires.

**Unsuitable extinguishing media:** DO NOT FIGHT FIRES INVOLVING EXPLOSIVES.

**Specific hazards arising from the Chemical:**

DO NOT FIGHT FIRES INVOLVING EXPLOSIVE MATERIALS. Immediately evacuate all personnel from the area to a safe distance. Guard against re-entry. This product is a high explosive with a mass detonation hazard. Thermal decomposition can lead to release of irritating gases and vapors.

**Protective equipment and precautions for fire fighters:**

As in any fire, wear self-contained breathing apparatus pressure-demand, NIOSH approved (or equivalent) and full protective gear.

## SECTION 6 – ACCIDENTAL RELEASE MEASURES

**Methods for containment:** Collect loose or spilled solid material for storage or transport to secured magazine.

**Methods for cleaning up:**

Review fire and explosion hazards before proceeding with clean up. Remove and protect ignition sources. Wear protective equipment during clean up. Mop up water using non-sparking tools. It is suggested that only personnel trained in Emergency Response should respond. Verify complete account of product(s). Notify authorities and follow applicable spill reporting requirements.

## SECTION 7 - HANDLING AND STORAGE

**Handling:** This product is an explosive and should only be used under the supervision of trained personnel. Protect containers from physical damage. Keep away from incompatible materials, heat, sparks, flames and other ignition sources. Avoid rough handling.

**Storage:**

Store under moderate temperatures recommended by a technical services representative. Store under dry conditions in a well ventilated magazine that has been approved for explosive storage. Do NOT store explosives in a detonator magazine or detonators in an explosive magazine. Keep away from heat, sparks and flames. Keep containers closed. Explosives should be kept well away from initiating explosives; protected from physical damage; separated from oxidizing materials, combustibles, and sources of heat. Keep away from incompatibles.

## SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Measures:** Full-handling precautions should be taken at all times.

**Personal Protective Equipment**

**Eye/Face Protection:**

Safety glasses with side-shields are recommended to prevent eye contact.

**Skin Protection:**

Long sleeved clothing. Impervious gloves.

**Respiratory protection:**

Use a NIOSH-approved respirator or equivalent during post-detonation clean up operations.

**Hygiene Measures:**

Handle in accordance with good industrial hygiene and safety practice.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Tan to Brown

**Odor:** None

**Physical State:** Solid

**Viscosity:** No information available

**pH:** No data available

**Melting Point/Range:** 80 °C/ 176 °F

**Flammable Limits**

**Flammable Limits**

**(upper):** No data available

**(lower):** No data available

**Explosion Power:** No data available

**Specific Gravity:** 1.5-1.7 g/cc

**Water Solubility:** Negligible

**Other Solubility:** No information available

**Vapor Pressure:** Not available  
**Partition Coefficient (n-octanol/water):** No data available.

**Oxidizing Properties:** No information available

## SECTION 10 - STABILITY AND REACTIVITY

**Stability:** Can explode from impact, heat or friction. PETN explodes at 190-210 °C (374-410 °F). Stable up to approximately 70 °C.  
**Conditions to avoid:** Keep away from heat, impact and friction. Refer to Product Bulletin for proper applications and use procedures.  
**Incompatible materials;** Strong acids. (Nitric Acid). Strong oxidizing agents.  
**Hazardous decomposition products:** Carbon Monoxide & Nitrogen oxides (NO<sub>x</sub>).

## SECTION 11 - TOXICOLOGICAL INFORMATION

### Acute Toxicity

**Product Information:** Decomposition products may be toxic.

**Carcinogenicity:** The ingredients of this product are not classified as carcinogenic by ACGIH (American Conference of Governmental Industrial hygienists) or IARC (International Agency for Research on Cancer), not regulated as carcinogens by OSHA (Occupational Safety and Health Administration), and not listed as carcinogens by T\NTP (National Toxicology Program).

**Irritation:** Not applicable.  
**Corrosivity:** Not applicable.

## SECTION 12 - ECOLOGICAL INFORMATION

**Ecotoxicity effects:** Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

## SECTION 13 - DISPOSAL CONSIDERATIONS

**Waste Disposal Method:** Burn under supervision of an expert at and explosive burning ground or destroy by detonation in boreholes, in accordance with applicable local, provincial and federal regulations. Call upon the services of an Orica Canada Inc. or Orica USA Inc. Technical Representative.  
**Contaminated Packaging:** No information available.

## SECTION 14 - TRANSPORT INFORMATION

**DOT Proper Shipping Name:** Boosters, without detonator  
**Hazard Class:** 1.1D  
**UN-No:** UN0042  
**Packing Group:** II  
**TDG Proper Shipping Name:** Boosters, without detonator  
**Hazard Class:** 1.1D  
**UN-No:** UN0042  
**Packing Group:** II

## SECTION 15 - REGULATORY INFORMATION

**CANADIAN CLASSIFICATION:** This product has been classified in accordance with the hazard criteria of the CPR (Controlled Products Regulations) and this MSDS contains all the information required by the CPR  
**WHMIS hazard class:** This product is an explosive and is not regulated by WHMIS.

**USA CLASSIFICATION:**

**SARA Regulations Sections 313 and 40 CFR 372:** No reportable components present.

**SARA 311/312 Hazardous Categorization**

**Acute Health Hazard:** Yes

**Chronic Health Hazard:** No  
**Fire Hazard:** Yes  
**Sudden Release of Pressure Hazard:** Yes  
**Ozone Protection and 40 CFR 42:** No reportable quantities of ozone depleting agents.  
**Other Regulations/Legislations which apply to this product:** No information available.

**TSCA:** Complies

**DSL:** Complies

**NDSL:** Complies

## **SECTION 16 - OTHER INFORMATION**

**Prepared By:** Safety, Health & Environment  
303-268-5000

**Preparation Date:** 09-Aug-07  
**Revision Date:** 27-April-2009

The information contained herein is offered as a guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. No warranty of any kind is given or implied and Orica will not be liable for any damages, losses, injuries or consequential damages which may result from the use of or reliance on any information contained herein.

**End of MSDS**