SECTION 1: IDENTIFICATION

Product Identifier: Cast Boosters
Product Names and Synonyms: ACP Booster Series, Orange Cap Series, Red Cap Series, Black Cap Series, Blue Cap Series, Brown Cap Series, Green Cap Series, Purple Cap Series, White Cap Series, Gray Cap Series, NDS Booster Series, ADP Booster Series, Gold Nugget, Diamond Nugget, DES Series, DES Pentolite Charges, DES Shaped Charges, Rock Crushers, 60, 90, 110 Gram Booster, Prime Gel, Renforcateurs, HDP Series, Snow Launcher Series, Delta K Series, Avalanche Guard, Hornet Series, Enviroprime Series, Electro Star Series, E-Star Series, Seisprime Series, Oil Well Special Series, DP Series, Crack Shot Series, Eagle Series
Intended Use: As a commercial explosive.
Intended Users: For use only under strictly controlled conditions and only by qualified personnel who are fully trained in the handling and use of this product.

Name, Address, and Telephone of the Responsible Party:

Austin Powder Company
25800 Science Park Dr.
Cleveland, OH 44122
216-464-2400 during normal business hours
877-836-8286 Toll Free 24/7
www.austinpowder.com

In Case of Emergency Call CHEMTREC – TOLL FREE 24/7
800-424-9300 DOMESTIC
1-703-527-3887 INTERNATIONAL AND MARINE

SECTION 2: HAZARDS IDENTIFICATION

Classification of the Substance or Mixture:

Code	Hazard Class	Hazard Category
H201	Explosives	Division 1.1
H301	Acute toxicity, oral	3
H311	Acute toxicity, dermal	3
H361	Reproductive toxicity	2
H372	Specific target organ toxicity, repeated exposure	1

Label Elements

Danger

Hazard Statements

Explosive, mass explosion hazard
Toxic if swallowed
Toxic in contact with skin
Suspected of damaging fertility or the unborn child
Causes damage to organs through prolonged or repeated exposure

Precautionary Statements

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Do not breathe dust or fumes.
Do not subject to grinding, friction, impact or shock.
Do not eat, drink or smoke when using this product.
Wear eye protection, protective gloves recommended.
IF SWALLOWED: Get immediate medical attention. DO NOT induce vomiting.
IF ON SKIN: Wash contact area with soap and water. If irritation occurs, get medical attention.
Take off contaminated clothing and wash before reuse.
IF INHALED: Remove person to fresh air. Keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical attention.
If exposed or concerned, or you do not feel well: Get medical attention.
Store locked-up in a ventilated space, in accordance with all applicable regulations.
Dispose of contents/container in accordance with all applicable regulations.

Other Hazards:

In case of fire: Extreme risk of explosion. Evacuate area. **DO NOT** fight fire when fire reaches explosives.

Unknown Acute Toxicity: Not available

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Name	Product Identifier	% (w/w)
2,4,6-Trinitrotoluene (TNT)	CAS No. 118-96-7	30-70%
Cyclonite (RDX)	CAS No. 121-82-4	0-70%
Pentaerythritol tetranitrate (PETN)	CAS No. 78-11-5	0-70%
Octogen (HMX)	CAS No. 2691-41-0	0-70%
Aluminum	CAS No. 7429-90-5	0-20%

SECTION 4: FIRST AID MEASURES

General: Never give anything by mouth to an unconscious person. If you feel unwell, get medical attention, show the label where possible.

Inhalation: Not expected to be a hazard under normal conditions of use.

Skin Contact: Not expected to be a hazard under normal conditions of use.

Eye Contact: Not expected to be a hazard under normal conditions of use.

Ingestion: Not expected to be a hazard under normal conditions of use.

Most Important Symptoms and Effects both Acute and Delayed:

Inhalation: None expected.

Skin Contact: None expected.

Eye Contact: None expected.

Ingestion: None expected.

Chronic Symptoms: None expected.

Indication of Any Immediate Medical Attention and Special Treatment Needed:

If exposed, concerned or you don't feel well, get medical attention.

SECTION 5: FIRE FIGHTING MEASURES

DO NOT fight fires involving Explosives. There is an extreme risk that explosives involved in a fire may detonate, especially if confined. Evacuate the area in all directions for one (1) mile or more if any amount of explosives is involved in a fire. Evacuation is recommended if the initial (incipient) fire, not involving explosives, becomes intense. General extinguishers may be used on the initial fire not involving explosives, such as electrical equipment fires, tire fires or a general plant fire. Water may be used to cool explosives not involved in the initial fire. Consult the most current Emergency Response Guidebook (ERG), Guide 112 for additional information.

Extinguishing Media

Suitable Extinguishing Media: None.

Unsuitable Extinguishing Media: For fires near explosives, dry chemical, foams, steam and smothering devices are not effective, can lead to possible explosion and must not be used.

Special Hazards Arising from the Substance or Mixture

Fire Hazard: There is an extreme risk that explosives involved in a fire may detonate.

Advice for Firefighters

Precautionary Measures: It is recommended that the amount and location of any explosives stored near a fire be determined prior to committing firefighters to fight the fire.

Firefighting Instructions: When fighting the initial fire, not involving explosives, firefighters should follow standard firefighting procedures for the materials involved.

Hazardous Combustion Products: No unusual combustion products are expected. However, toxic fumes will be present.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Contact the manufacturer or CHEMTREC. No smoking, open flames or flame/spark producing items in the area.

For Non-Emergency Personnel

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

Emergency Procedures: Isolate the area from unnecessary personnel.

For Emergency Personnel

Protective Equipment: Provide cleanup crew with proper PPE.

Emergency Procedures: Stop the discharge if safe to do so. Ventilate area.

Emergency Precautions: Avoid release to the environment.

Methods and Material for Containment and Cleaning Up: Contact manufacturer or CHEMTREC.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Additional Hazards when Processed: Avoid heating explosives in a confined space. Any proposed use of this product in elevated temperature processes should be thoroughly evaluated to assure that safe operating conditions are established and maintained. A "hot work" program consistent with OSHA requirements at 29 CFR 1910.252 must be used when performing hot work on explosive process equipment, storage areas or containers related to the intended use.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with soap and water before eating, drinking, or smoking and again when leaving work. Wash contaminated clothing before reuse.

Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: May be corrosive to metals. Smoking, open flames, and unauthorized sparking or flame-producing devices are prohibited.

Storage Conditions: Storage areas should be inspected regularly by an individual trained to identify potential hazards and ensure that all safety and security control measures are being properly implemented. All explosives storage sites must comply with ATF, OSHA or NRCAN regulations.

Incompatible Materials: Avoid contamination with combustible or flammable materials, strong acids, strong bases, strong oxidizing agents, reducing agents, chlorinated compounds, copper (any alloys like bronze and brass), metal powders and peroxides.

Special Rules on Packaging: Packaging in accordance with USDOT or NRCAN regulations.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits:

2,4,6-Trinitrotoluene (TNT), CAS N0. 118-96-7		
USA ACGIH	ACGIH TWA	0.1 mg/m³
USA OSHA	OSHA PELTWA)	1.5 mg/m³
USA NIOSH	NIOSH REL (TWA)	0.5 mg/m³
USA IDLH	US IDLH	500 mg/m³
Alberta	OEL TWA	0.1 mg/m³
British Columbia	OEL TWA	0.1 mg/m³
Manitoba	OEL TWA	0.1 mg/m³
New Brunswick	OEL TWA	0.1 mg/m³
Newfoundland & Labrador	OEL TWA	0.1 mg/m³
Nova Scotia	OEL TWA	0.1 mg/m³
Nunavut	OEL Ceiling	0.5 mg/m³
Northwest Territories	OEL Ceiling	0.5 mg/m³
Ontario	OEL TWA	0.1 mg/m³
Prince Edward Island	OEL TWA	0.1 mg/m³
Québec	VEMP	0.5 mg/m³
Saskatchewan	OEL STEL	0.3 mg/m³
Saskatchewan	OEL TWA	0.1 mg/m³
Yukon	OEL Ceiling	0.5 mg/m³

Cyclonite (RDX), CAS No. 121-82-4		
USA ACGIH	ACGIH TWA	0.5 mg/m³
USA NIOSH	NIOSH REL (TWA)	1.5 mg/m³
USA NIOSH	NIOSH REL (STEL)	3 mg/m³
Alberta	OEL TWA	0.5 mg/m³
British Columbia	OEL TWA	0.5 mg/m³
Manitoba	OEL TWA	0.5 mg/m³
New Brunswick	OEL TWA	0.5 mg/m³
Newfoundland & Labrador	OEL TWA	0.5 mg/m³
Nova Scotia	OEL TWA	0.5 mg/m³
Nunavut	OEL STEL	3 mg/m³
Nunavut	OEL TWA	1.5 mg/m³
Northwest Territories	OEL STEL	3 mg/m³
Northwest Territories	OEL TWA	1.5 mg/m³
Ontario	OEL TWA	0.5 mg/m³
Prince Edward Island	OEL TWA	0.5 mg/m³
Québec	VEMP	1.5 mg/m³
Saskatchewan	OEL STEL	1.5 mg/m³
Saskatchewan	OEL TWA	0.5 mg/m³
Yukon	OEL STEL	3 mg/m³
Yukon	OEL TWA	1.5 mg/m³

Aluminum granules, CAS No. 7429-90-5		
USA ACGIH	ACGIH TWA	1 mg/m³ (inhalable fraction)
USA ACGIH	ACGIH category	Not Classifiable as a Human Carcinogen
USA OSHA	OSHA PEL (TWA)	15 mg/m³ (total dust) 5 mg/m³ (inhalable fraction)
USA NIOSH	NIOSH REL (TWA)	10 mg/m³ (total dust) 5 mg/m³ (inhalable dust)
Alberta	OEL TWA	10 mg/m³ (dust)
British Columbia	OEL TWA	1.0 mg/m³ (inhalable)
Manitoba	OEL TWA	1 mg/m³ (inhalable fraction)
New Brunswick	OEL TWA	10 mg/m³ (metal dust)
Newfoundland & Labrador	OEL TWA	1 mg/m³ (inhalable fraction)
Nova Scotia	OEL TWA	1 mg/m³ (inhalable fraction)
Nunavut	OEL STEL	20 mg/m³
Nunavut	OEL TWA	10 mg/m³
Northwest Territories	OEL STEL	20 mg/m³
Northwest Territories	OEL TWA	10 mg/m³
Ontario	OEL TWA	1 mg/m³ (inhalable)
Prince Edward Island	OEL TWA	1 mg/m³ (inhalable fraction)
Québec	VEMP	10 mg/m³
Saskatchewan	OEL STEL	20 mg/m³ (dust)
Saskatchewan	OEL TWA	10 mg/m³ (dust)

Exposure Controls:

Appropriate Engineering Controls: Product should be handled and used under strictly controlled conditions. Emergency eye wash fountains and safety showers should be available in the vicinity of any potential exposure, but are not required.

Personal Protective Equipment:

Hand Protection: Chemically resistant gloves are recommended, but not required.

Eye Protection: Safety glasses with side shields or safety goggles.

Respiratory Protection: Approved respiratory protection should be worn when recommended by a risk assessment or if irritation is experienced.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Physical and Chemical Properties:

Appearance:	Solid
Odor:	None
Odor threshold:	Not available
Vapor density:	Not available
pH:	Not relevant
Melting point:	70°C - 75ºC (158°F - 167ºF)
Initial boiling point and boiling range:	Not available
Flash point (oil):	Not available
Evaporation rate:	Not relevant
Flammability:	Not available
Upper / lower flammability or explosive limits:	Not available
Vapor pressure:	Not available
Density:	1.5 – 1.7 g/cc
Solubility:	Not soluble in water
Partition coefficient: n-octol/water:	Not available
Auto-ignition temperature:	Not Available
Decomposition temperature:	210°C (410°F)
Viscosity:	Not relevant
Explosive properties:	Mass detonation hazard when involved in a fire
Explosion Data – Sensitivity to Mechanical Impact:	Not sensitive to mechanical impact
Explosion Data – Sensitivity to Static Discharge:	Not sensitive to static discharge

SECTION 10: STABILITY AND REACTIVITY

Reactivity and Chemical Stability: Stable and non-reactive under normal conditions of transportation, storage, handling and use.

Possibility of Hazardous Reactions: Polymerization will not occur.

Conditions to Avoid: Open flame and elevated temperatures.

Incompatible Materials: Avoid contamination with combustible or flammable materials, strong acids, strong bases, strong oxidizing agents, reducing agents, chlorinated compounds, copper (any alloys like bronze and brass), metal powders and peroxides.

Hazardous Combustion Products: No unusual combustion products are expected. However, toxic fumes will be present.

SECTION 11: TOXICOLOGY INFORMATION

Acute Toxicity: Not classified

LD50 and LC50 Data: Not available for product

Skin Corrosion/Irritation: Not classified

Eye Damage/Irritation: Not classified

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not available

Carcinogenicity: Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): None

Specific Target Organ Toxicity (Repeated Exposure): None

Aspiration Hazard: Not classified

Symptoms/Injuries after Inhalation: Not expected to be a hazard under normal conditions of use.

Symptoms/Injuries. after Skin Contact: Not expected to be a hazard under normal conditions of use

Symptoms/Injuries after Eye Contact: Not expected to be a hazard under normal conditions of use.

Symptoms/Injuries after Ingestion: Not expected to be a hazard under normal conditions of use.

Chronic Symptoms: None

LD50 and LC50 Data (ingredients):

2,4,6-Trinitrotoluene (TNT), CAS No. 118-96-7	
ATE US (oral)	100 mg/kg of body weight
ATE US (dermal)	300 mg/kg of body weight
ATE US (dust)	0.5 mg/kg of body weight
IARC	3

Cyclonite (RDX), CAS No. 121-82-4	
LD50 Oral Rat	100 mg/kg of body weight
LC50 Inhalation Rat	> 88.8 mg/l/4h

Octogen (HMX), CAS No. 2691-41-0	
LD50 Oral Rat	1,670 mg/kg
LD50 Dermal Rat	982 mg/kg species: New Zealand White

SECTION 12: ECOLOGY INFORMATION

Not available

SECTION 13: DISPOSAL CONSIDERATIONS

Call manufacturer or CHEMTREC.

SECTION 14: TRANSPORTATION INFORMATION

Agency	UN Number	Proper Shipping Name	Hazard Class	Label Codes	PG	Marine Pollutant	Other
US DOT	UN0042	Boosters, *without detonator*	1.1D	1.1D		No	ERG-112
Canadian TDG	UN0042	Boosters, *without detonator*	1.1D	1.1D		No	--
IMDG (Vessel)	UN0042	Boosters, *without detonator*	1.1D	1.1D		No	EmS-No, Fire: F-B Spillage: S-X
IATA (Air)	Contact the manufacturer.						

SECTION 15: REGULATORY INFORMATION

US Federal Regulations:

Emergency Planning and Community Right-To-Know Act (EPCRA), a/k/a Superfund Amendments and Reauthorization Act (SARA) Title III
Toxic Substances Control Act (TSCA)
TSCA Section 8

SARA Section 311/312	Fire hazard Sudden Release of pressure hazard. Immediate (acute) health hazard Delayed (chronic) health hazard
TSCA	All the ingredients are on the United States TSCA inventory.

Canadian Regulations:

Domestic Substances List (DSL)
Workplace Hazardous Materials Information System (WHMIS)

WHMIS Classification	Note: Explosives are regulated by NRCAN and not classified under WHMIS
DSL	All ingredients are listed on the Canadian DSL

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF LAST REVISION

This SDS was prepared in accordance with US (29 CFR 1900.1200) and Canadian (WHMIS 2015) requirements.

SDS: P-7 Initial Issue Date: 06/01/2015 Last Revision Date: 10/02/2017 Version: 7

Party Responsible for the Preparation of This Document:

Austin Powder Company
Cleveland, OH 44122
216-464-2400

This information is based on Austin Powder Company's current knowledge and is intended to describe the product for the purposes of health and safety requirements only. It should not be construed as guaranteeing any specific property of the product.