

MSDS *GHS Safety Data Sheet*

AUSTIN POWDER COMPANY



CAST BOOSTER

MSDS Number: P-1

Revision Date: 10/25/2011

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1 PRODUCT AND COMPANY IDENTIFICATION

Manufacturer

AUSTIN POWDER COMPANY
25800 Science Park Drive
Cleveland, OH 44122

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Product Name: CAST BOOSTER
Revision Date: 10/25/2011
Version: 1
MSDS Number: P-1
Product Use: EXPLOSIVIES

SYNONYMS: APC Booster, Orange Cap, Orange Cap DC, Orange Cap R, Red Cap, Black Cap, Black Cap DC, Brown Cap, Green Cap, Purple Cap, White Cap, White Cap DC, Gray Cap, NDS Boosters, ADP Boosters, Gold Nugget, Silver Nugget, Diamond Nugget, DES Series, DES Pentolite Charges, Rock Crushers 60 gram, Rock Crushers 90 gram, Rock Crushers 110 gram, DES Shaped Charges, Prime Gel, Renforctures, HDP 150, HDP 400, HDP 400LP, HDP 450, Snow Launcher Series, Avalanche Guard, Hornet Series, Enviroprime Series, Electro Star Series, E-Star Series, Seisprime Series, Oil Well Special Series.

2 HAZARDS IDENTIFICATION

Route of Entry: Eyes; Ingestion; Inhalation; Skin;
Inhalation: Gaseous decomposition products from detonation or burning will produce nitrogen oxides and carbon oxides. Toxic decomposition products including carbon monoxide (CO) may migrate to off blast-site areas
Skin: TNT can be absorbed through the skin. Excessive skin contact may cause dermatitis and sensitization.
Eye: May cause irritation.
Ingestion: Ingestion of TNT may cause headache, weakness, methemoglobinemia, liver damage or cataracts. Ingestion of RDX may cause nervous system or epileptiform seizures



GHS Classifications: Physical, Explosives, Division 1.1
GHS Phrases: Danger, Explosive; mass explosion hazard



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3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

CAS #	Chemical Name	Contents %	Hazard	R-phrases
118-96-7	TNT, Trinitrotoluene, C ₇ H ₅ N ₃ O ₆ ,	30 to 80	E T N	2 23/24/25 33 51/53
78-11-5	PETN, Pentaerythritol tetranitrate, C ₅ H ₈ N ₄ O ₁₂	20 to 70	E	3
2691-41-0	HMX, Cyclotetramethylene tetranitramine, C ₄ H ₈ N ₈ O ₈	0 to 10	E Xn	2 20/21/22
121-82-4	RDX, Cyclotrimethylene trinitramine, C ₃ H ₆ N ₆ O ₆ ,	20 to 70	E T	2 23/24/25
8066-33-9	Pentolite is a 50/50 mixture of PETN and TNT		E	3 23/24/25 33 51/53
7429-90-5	Aluminum, AL	0 to 20	-	-

4 FIRST AID MEASURES

Inhalation: Avoid fumes from a detonation or fire. Remove victim to fresh air.

Skin Contact: Wash with soap and water. Get medical attention if needed.

Eye Contact: Immediately flush eyes with large amounts of water for at least 15 minutes, lifting eyelids occasionally to facilitate irrigation.

Ingestion: Induce vomiting. Obtain medical attention immediately.

Injury From Detonation: Obtain medical attention immediately

5 FIRE FIGHTING MEASURES

Flash Point: N/A

Flash Point Method: N/A

Burning Rate: N/A

Flammability: N/A

DO NOT FIGHT FIRES. Withdraw personnel immediately. Allow Fire to burn itself out. Avoid toxic fume from fire. May explode when subjected to fire or shock.

6 ACCIDENTAL RELEASE MEASURES

Sweep up and dispose of all spilled material immediately. Do not permit smoking or open flames near spill site.



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7 HANDLING AND STORAGE

Handling Precautions: Handle with care regarding risk of explosion.
Keep away from sources of ignition.
Avoid shock and friction.
Use non-sparking tools.

Storage Requirements: Store in cool/dry area, well ventilated explosives magazine in accordance with member country regulations.
Keep away from fire.
Shelf Life: Five years from date of manufacture under good storage conditions

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal Protective Equip:

EYE PROTECTION:	Not required under normal conditions
PROTECTIVE GLOVES:	Not required under normal conditions. Avoid skin contact with the explosive mix.
VENTILATION:	Not required under normal conditions
RESPIRATORY PROTECTION:	Avoid breathing fumes from detonation

TLV

ACGIH:

TNT-Skin	0.1 mg/m3
PETN	None
RDX	1.5 mg/m3
AL	10 mg/m3

OSHA:

TNT-Skin	1.5 mg/m3
PETN	None
RDX	None
AL	15 mg/m3

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	The solid explosive mix may be a yellow to brown color or a grayish-green color.		
Physical State:	Solid	Odor:	None
Odor Threshold:	N/A	Solubility:	0.15%
Spec Grav./Density:	1.65	Softening Point:	N/A
Viscosity:	N/A	Percent Volatile:	N/A
Sat. Vap. Concentrat.	N/A		
Boiling Point:	Decomposes		
Vapor Pressure:	Negligible at 20 °C		
pH:	N/A		
Evap. Rate:	N/A		

The booster explosive mix is contained within a cylindrical plastic or fiberboard package with one or more holes through the axis designed to accept a detonating cord or a detonator.



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10 STABILITY AND REACTIVITY

Stability: Stable under normal conditions. May explode when subject to fire, shock, or friction.
Conditions to Avoid: Shock, friction, fire or other sources of ignition, heat (risk of explosion)
Materials to Avoid: Strong Acids or alkalies
Hazardous Decomposition: Combustion will produce carbon dioxide and, possibly toxic chemicals such as carbon monoxide.
Hazardous Polymerization: Will not occur.

11 TOXICOLOGICAL INFORMATION

See Hazards Identification Section 2

12 ECOLOGICAL INFORMATION

These explosives are only slightly soluble in water. Avoid prolonged exposure in lakes, streams or drinking water sources. Residual TNT, RDX and HMX may contaminate soils and ground water for extended periods of time.

13 DISPOSAL CONSIDERATIONS

Dispose of waste materials under the direct supervision of a qualified person according to local, state and federal regulations. Call Austin Powder for recommendations and assistance. This material may become a hazardous waste under certain conditions and must be collected, labeled and disposed of in accordance with member country hazardous waste regulations.

14 TRANSPORT INFORMATION

UN #: Un 0042 Category: 1, Proper Shipping Name: Boosters, without detonator

DOT Class: Explosive (1.1) #1.1

Transportation Emergency involving spills, leaks, fires, or exposures in the united United States, Canada, Puerto Rico: Call CHEMTREC (24HR Emergency Telephone), call 1-800-424-9300- United States, Canada, Puerto Rico (U.S.Commonwealth) and the Virgin Islands (U.S. Territory). International callers, dial the U.S. access number followed by 1-703-527-3887 (Mexico access number 00). U.S. Maritime callers dial- 1-703-527-3887.





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REGULATORY INFORMATION



R 2 Risk of explosion by shock, friction, fire or other sources of ignition.

R 3 Extreme risk of explosion by shock, friction, fire or other sources of ignition.

R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

R 33 Danger of cumulative effects.

R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

EC Type Examination Certificate ENB/B/O17/02 has been issued by the Explosives Notified Body, Health & Safety Laboratory, Harpur Hill, Buxton, Derbyshire, SK17 9JN, United Kingdom for CE0519 as a High (Blasting) Explosive

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OTHER INFORMATION