

## SAFETY DATA SHEET

### SECTION 1: IDENTIFICATION

- 1.1 Product Name: Igniters; Articles, explosive, n.o.s.  
Synonyms: NPb Igniter; NPb Mini; NPb Igniter Chips  
Product Codes: UN0454; UN0349
- 1.2 Manufacturer's Physical Address:  
  
Martinez Specialties, Inc.  
205 Bossard Road  
Groton, NY 13073 USA  
  
24 HOUR EMERGENCY PHONE: 1-813-248-0585  
CHEMTEL CONTRACT #: MIS0005794
- 1.3 Product Use: Ignition source

### SECTION 2: HAZARD IDENTIFICATION: GHS-US

- 2.1 CLASSIFICATION (GHS-US):  
Explosive 1.4S H204
- 2.2 GHS-US LABEL ELEMENTS:  
HAZARD PICTOGRAM- GHS01



SIGNAL WORD: WARNING

HAZARD STATEMENTS: H204 – Fire or projection hazard.

PRECAUTIONARY STATEMENTS:

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| General:   | P101 – If medical advice is needed, have product label available.<br>P102 – Keep out of reach of children.<br>P103 – Read label before use.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Prevention | P201 – Obtain special instructions before use.<br>P202 – Do not handle until all safety precautions have been read and understood.<br>P210 – Keep away from heat / sparks / open flames / hot surfaces.<br>P220 – Keep away from clothing / combustible materials.<br>P221 – Take any precautions to avoid mixing with combustibles.<br>P240 – Ground / bond container and receiving equipment.<br>P243 – Avoid static electricity.<br>P250 – Do not subject to grinding / shock / friction.<br>P261 – Avoid breathing dust / fumes / gas / mist / vapor / spray.<br>P264 – Wash hands thoroughly after handling.<br>P270 – Do not eat, drink or smoke when using this product.<br>P281 – Use personal protective equipment as required. |
| Response:  | P301 + P312 – IF SWALLOWED, call a Poison Center/ doctor / physician if you feel unwell.<br>P308 + P313 – IF exposed or concerned, get medical advice / attention.<br>P370 + P378 – In case of fire, use water to extinguish.<br>P371 + P380 + P375 – In case of major fire and large quantities, Evacuate area, Fight fire remotely due to risk of explosion.<br>P373 – DO NOT fight fire when fire reaches explosives.                                                                                                                                                                                                                                                                                                                 |
| Storage:   | P405 – Store locked up.<br>P501 – Dispose of waste in accordance with government regulations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |



2.3 HAZARDS NOT OTHER CLASSIFIED (HNOC): No additional information available.

2.4 UNKNOWN ACUTE TOXICITY: No data available.

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### SECTION 3: COMPOSITION/ INFORMATION ON INGREDIENTS

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3.1 SUBSTANCE: Not applicable.

3.2 MIXTURE:

<u>Chemical Name:</u>	<u>CAS No:</u>	<u>Percentage:</u>	<u>Classification (GHS-US):</u>
BISMUTH OXIDE	1304-76-3	35-40	Not Classified
BORON	7440-42-8	15-17	Not Classified
POTASSIUM PERCHLORATE	7778-74-7	35-40	Not Classified
TITANIUM	7440-32-6	2-3	Not Classified

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### SECTION 4: FIRST-AID MEASURES

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4.1 INSTRUCTIONS:

- Burns: Treat all thermal burns with the appropriate first aid measures for degree of burn.  
Respiratory Distress: Remove to fresh air and seek medical attention for smoke inhalation.  
Eyes: Flush with fresh water for 15 minutes and seek medical attention.

4.2 MOST IMPORTANT SYMPTOMS/ EFFECTS:

Coughing and/or wheezing from smoke inhalation or difficulty in breathing.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION:

Notes to Physician- Treat symptomatically.

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### SECTION 5: FIRE-FIGHTING MEASURES

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5.1 EXTINGUISHING MEDIA:

SUITABLE EXTINGUISHING MEDIA: Flood with water. Class A fire extinguisher may be used. Do not use suffocation methods as the igniters contain their own oxygen.

UNSUITABLE EXTINGUISHING MEDIA: None.

5.2 SPECIAL HAZARDS ARISING FROM THE MIXTURE:

A large quantity of igniters may burn rapidly. Burning igniters will project sparks several feet and can cause secondary fires. Igniters may rupture a container if ignited under confinement.

5.3 RECOMMENDATIONS FOR FIREFIGHTERS:

Firefighters should wear full protective gear.

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### SECTION 6: ACCIDENTAL RELEASE MEASURES

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PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:

The likelihood of the igniter composition being released into the environment is low. If a significant quantity of composition is released into the environment by breakage or spillage then remove all potential sources of ignition, salvage any undamaged product and soak with water the remaining product before cleaning up.

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### SECTION 7: HANDLING AND STORAGE

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HANDLING AND STORAGE:

All igniters should be handled with caution. Avoid open flames, smoking, friction, impact, excessive heat and electrostatic discharge. Store igniters in a cool and dry place. Store according to government regulations.

**SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

8.1 CONTROL PARAMETERS / EXPOSURE LIMITS:

<u>CHEMICAL NAME:</u>	<u>CAS#</u>	<u>OSHA (PEL)</u>	<u>ACGIH (TLV)</u>
BISMUTH TRIOXIDE	1304-76-3	15mg/m3	10mg/m3
BORON	7440-42-8	15mg/m3	10mg/m3
POTASSIUM	7778-74-7	Not Established	Not Established
TITANIUM	7440-32-6	Not Established	Not Established

8.2 EXPOSURE CONTROLS: No special measures are required when handling igniters.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES:

PHYSICAL STATE: Solid.  
 APPEARANCE: Brown colored bead of pyrotechnic composition on a copper-clad chip.  
 ODOR: N/A  
 ODOR THRESHOLD: N/A  
 pH: N/A  
 RELATIVE EVAPORATION RATE: N/A  
 MELTING POINT: N/A  
 FREEZING POINT: N/A  
 BOILING POINT: N/A  
 FLASH POINT: N/A  
 AUTO-IGNITION TEMP : >150° C  
 DECOMPOSITON TEMP: N/A  
 FLAMMABILITY (solid, gas): N/A  
 VAPOR PRESSURE: N/A  
 RELATIVE VAPOR DENSITY @ 20°C:  
 N/A  
 RELATIVE DENSITY: N/A  
 WATER SOLUBILITY: N/A  
 KILNEMATIC VISCOSITY: N/A  
 DYNAMIC VISCOSITY: N/A  
 EXPLOSIVE PROPERTIES: No data available.  
 OXIDIZING PROPERTIES: No data available.  
 EXPOLOSIVE LIMITS: No data available.

9.2 OTHER INFORMATION: No additional information available.

**SECTION 10: STABILITY AND REACTIVITY**

- 10.1 REACTIVITY: No data available.
- 10.2 CHEMICAL STABILITY: The product is stable at normal handling and storage conditions.
- 10.3 POSSIBILITY OF HAZARDOUS REACTIONS: Will not occur.
- 10.4 CONDITIONS TO AVOID: Open flames, sparks, high temperatures, friction or impact and electrostatic discharges.
- 10.5 INCOMPATIBLE MATERIALS: None known.
- 10.6 HAZARDOUS DECOMPOSITION: Decomposition does not occur under normal circumstances during storage, transport and handling.

**SECTION 11: TOXICOLOGICAL INFORMATION**

11.1 INFORMATION ON LIKELY ROUTES OF EXPOSURE:

Primary hazard is from thermal burns caused by accidental ignition of igniters.  
 Deliberate inhalation or ingestion of large amounts of crushed igniter head composition may cause respiratory discomfort.  
 Not absorbed through skin.

11.2 POTENTIAL HEALTH EFFECTS:

EYES: Specific test data for the mixture is not available. Smoke produced may irritate eyes.

SKIN: Specific test data for the mixture is not available. Prolonged contact may cause redness or irritation.

INGESTION: Specific test data for the mixture is not available. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May be harmful if swallowed, based on components.

INHALATION: Specific test data for the mixture is not available. Smoke produced may cause irritation of respiratory tract.

11.3 COMPONENT INFORMATION:

CHEMICAL NAME	CAS#	(PEL)	(TLV)	TOXICITY DATA
BISMUTH TRIOXIDE	1304-76-3	15mg/m <sup>3</sup>	10mg/m <sup>3</sup>	LD50 Oral-rat->2,000 mg/kg
BORON	7440-42-8	15mg/m <sup>3</sup>	10mg/m <sup>3</sup>	LD50 Oral – rat- 650 mg/kg
POTASSIUM PERCHLORATE	7778-74-7	Not Established	Not Established	LD50 Oral-rat –1870 mg/kg
TITANIUM	7440-32-6	Not Established	10 (as TiO <sub>2</sub> )	Not Established

ACUTE HEALTH HAZARDS: Bismuth Trioxide ingestion has no adverse effects however, ingestion is not advised.

CHRONIC HEALTH HAZARDS: See Boric Acid exposure. Large doses of Boron compounds can cause depression of the circulation, persistent vomiting and diarrhea, followed by shock and coma.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Smoke generated by burning igniters may cause respiratory irritation in those individuals with asthma, allergies or other preexisting respiratory conditions.

11.4 Material has not been found to be carcinogen nor produce genetic, reproductive, or developmental effects.

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SECTION 12: ECOLOGICAL INFORMATION

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ECOLOGICAL INFORMATION: No effects.

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SECTION 13: DISPOSAL CONSIDERATIONS

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WASTE DISPOSAL METHOD: Dispose of in accordance with local, state, and federal regulations. Small quantities can be disposed of by open burning if permitted.

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SECTION 14: TRANSPORT INFORMATION

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14.1 D.O.T (Department of Transportation, USA):

PROPER SHIPPING NAME: Igniters; Articles, explosive, n.o.s.  
HAZARD CLASS: 1.4S  
ID NUMBER: UN0454; UN0349  
PACKING GROUP: II  
EXEMPTION: EX2006070113; EX2007010049

14.2 IATA (International Air Transportation Association):

PROPER SHIPPING NAME: Igniters; Articles, explosive, n.o.s.  
HAZARD CLASS: 1.4S  
ID NUMBER: UN0454; UN0349  
PACKING GROUP: II  
PACKING METHOD: 142

14.3 Shipping Labels Required:



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SECTION 15: REGULATORY INFORMATION

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In the USA, it is required by the BATFE to be licensed /permitted to purchase, sell or possess electric igniters. Most US states require state, local or Fire Marshal approval/ permits.

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SECTION 16: OTHER INFORMATION

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All pyrotechnics should be used and handled with extreme caution, in accordance with all relevant regulations and codes only by experienced personnel.

The information contained herein is based on the present state of our knowledge. It serves as a guideline on proper handling of the product.

Prepared By: Anna Young  
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END