QUIKDRAW® PROPELLING CHARGE
MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION

1.1 SUPPLIER

Company: RockTek trading for BD Explosives Pty Ltd
ABN: 73 130 182 008
Street Address: Lot 1334 Stakehill Road
BALDIVIS, WESTERN AUSTRALIA 6171

Telephone: +61 8 9523 1374 or Tony Hickey mobile - 0418 925 501
Facsimile: +61 8 9523 1449

EMERGENCY TELEPHONE NUMBER: 08 9427 0499 (24 hours)

1.2 PRODUCT DESIGNATION

Product Name: QuikDraw Propelling Charge
UN Shipping Name: Articles, Pyrotechnic, for technical purposes
U.N. Number: 0432
Dangerous Goods Class: 1.4C
Subsidiary Risk: None
Poisons Schedule Number: None

1.3 USE

To propel QuikDraw projectiles used in the clearing of hang-ups in underground mining.

1.4 PERSONAL PROTECTIVE EQUIPMENT REQUIRED

1.5 PHYSICAL DESCRIPTION/PROPERTIES

APPEARANCE

Approximately 60 grams of propellant (Pyrodex) in a white HDPE plastic pill bottle.

WARNING: Initiation of propellant may occur from excessive heating and exposure to friction and impact. Avoid all contact with other chemicals.
1.6. PHYSICAL PROPERTIES

Characteristics (Propellant): Medium to dark grey granular solid
Boiling Point (°C): Not Applicable
Melting Point (°C): Not Applicable
Vapor Pressure (kPa): Negligible
Freezing Point (°C): Not Applicable
Bulk Density of Propellant Pyrodex: 0.75 g/cc
Flash Point: Not Applicable
Lower Explosive Limit: Not Applicable
Upper Explosive Limit: Not Applicable
Solubility in Water (Propellant): Immiscible

1.7 CHEMICAL COMPONENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No.</th>
<th>Proportion %</th>
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<tbody>
<tr>
<td>Propellant Pyrodex:</td>
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<tr>
<td>Charcoal</td>
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<tr>
<td>Sulfur</td>
<td></td>
<td></td>
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<tr>
<td>Potassium Nitrate</td>
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<tr>
<td>Potassium Perchlorate</td>
<td></td>
<td>Proportions not revealed by Hodgdon Powder Co.</td>
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<tr>
<td>Graphite</td>
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</tbody>
</table>

2. HEALTH HAZARD INFORMATION

2.1 HEALTH EFFECTS - CHARGE STRUCTURE UNCOMPROMISED

ACUTE

Swallowed No Risk - Humans unable to swallow charge.
Eye No Risk - All irritating material is contained within the charge.
Skin No Risk - All irritating material is contained within the charge.
Inhaled No Risk - All irritating material is contained within the charge.

CHRONIC

No Risk apart from the explosive nature of the product

FIRST AID

All potentially hazardous substances are sealed within the charge and as such do not pose a risk to users.
2.2 HEALTH EFFECTS - CHARGE STRUCTURE COMPROMISED

ACUTE

Swallowed  Propellant is toxic if swallowed. Considered an unlikely route of entry in commercial / industrial environments.

Eye  Propellant may be irritating to the eyes.

Skin  Propellant may be irritating to the skin. Some people may be unusually sensitive to the product

Inhaled  Dusty material may be irritating to the upper respiratory tract and lungs. The decomposition vapors are extremely harmful to the upper respiratory tract and lungs.

CHRONIC

- Principal routes of exposure are usually by skin contact and inhalation of dust.
- The principal hazard is related to the potential of fire / explosion and associated physical injury.
- As with any chemical, ingestion, inhalation and prolonged or repeated skin contact should be avoided by good occupational work practice.
- Short-term exposure by all routes is considered to be practically non-harmful, apart from the explosive nature of the propellant.

FIRST AID

Swallowed
- DO NOT induce vomiting.
- Give water (or milk to rinse out mouth), then provide liquid slowly and as much as the casualty can comfortably drink. DO NOT give liquid to a person showing the signs of being sleepy or becoming unconscious.
- Transport to hospital, or doctor without delay.

Eye
If the propellant comes into contact with the eyes:
- Immediately hold the eyes open and wash continuously for at least 15 minutes with fresh running water. Ensure irrigation under the eyelids by occasionally lifting the upper and lower lids.
- Transport to hospital or doctor without delay.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

Skin
If propellant comes into contact with the skin:
- Immediately remove all contaminated clothing, including footwear (after rinsing with water)
- Wash affected area thoroughly with water.
- Seek medical attention in the event of irritation.
Inhaled
If fumes or combustion products are inhaled:
- Remove to fresh air.
- Lay patient down. Keep warm and rested.
- If breathing is shallow or has stopped, ensure clear airway and apply resuscitation.
- Transport to hospital or doctor.

3. SAFE HANDLING AND STORAGE

3.1 STORAGE REQUIREMENTS

- Store QuikDraw Propelling Charges in original containers.
- Keep containers securely sealed until ready for use.
- No smoking, naked lights, heat or ignition source within 10 meters of storage location.
- Store QuikDraw Propelling Charges in a well-ventilated, secure store.
- Store in a cool dry place, do not store at temperatures above 65.5 °C (150 °F).
- Store in an area away from other materials.
- Protect PCF Safety Charge Packaging against physical damage.
- Regularly check storage container and packaging.

3.2 STORAGE INCOMPATIBILITY

- Avoid storage with acids, alkalis and oxidising / reducing agents.

3.3 FIRE/EXPLOSION HAZARD

- In the event of a fire, clear area of personnel and move upwind. Propellant contained within the QuikDraw Propelling Charges is extremely sensitive to heat and will burn with rapidly increasing intensity of fire.
- QuikDraw Propelling Charges are sensitive to heat, spark and impact. Avoid all excessive heat as it may cause a charge to initiate.
- Heating of charges may cause expansion or decomposition of the propellant leading to violent rupture of the charge housing. Heat affected charges remain hazardous.
- Pyrodex provides its own oxygen for combustion and the smothering action of foam or dry chemical extinguishers may be ineffective.
- Combustion / Decomposition produces toxic fumes of oxides, carbon monoxide (CO), carbon dioxide (CO₂) and sulfur dioxide (SO₂). Suspended particulate matter from burning may also be produced.
3.4 MINOR SPILLS

In the event that propellant from a QuikDraw propelling charge should be spilt the following action should be taken:

- Clear up all spills immediately.
- Avoid breathing the powder / vapour and contact with the skin and eyes.
- Wear impervious gloves and safety glasses.
- Remove all ignition sources.
- Use spark free tools when handling propellant.
- Sweep into non-sparking containers or barrels and place under water.
- Place spilled material in a clean, sealable, labelled container for disposal.
- Flush the area with large amounts of water.

4. CONTACT POINTS

AUSTRALIAN POISONS INFORMATION CENTRE (24 hour service) 13 11 26

EMERGENCY CONTACT

Police
Fire Brigade

Dial “000” or 1100 Exchange
Notify Police and Fire Brigade as to location, material, quantity, UN Number and Company contact

COMPANY CONTACT

RockTek Trading for BD Explosives Pty Ltd, Lot 1334 Stakehill Road, Baldivis, Western Australia, Telephone: +61 8 9523 1374