

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 6176
Telephone: +61 8 9523 1374
Facsimile: +61 8 9523 1449

EMERGENCY TELEPHONE NUMBER: 08 9427 0499 - 24hrs

1.2 PRODUCT DESIGNATION

PRODUCT NAME: 27.5mm PCF™ Safety Cartridges (RockCracker)
42mm PCF™ Safety Cartridges (RockCracker)
60mm PCF™ Safety Cartridges (RockCracker)

UN Shipping Name: ARTICLE, EXPLOSIVE, N.O.S.
UN Number: 0351
Dangerous Goods Class: 1.4C
Subsidiary Risk: None
Poisons Schedule Number: None



1.3 USE Rock/Concrete excavation.

1.4 PERSONAL PROTECTIVE EQUIPMENT REQUIRED



This is the minimum personal protective equipment required during the use of PCF™ Safety Cartridges (RockCracker).

Site specific personal protective equipment requirements also need to be adhered to.

1.5 PHYSICAL DESCRIPTION

Plastic cylinder of varying diameters of which generally incorporate a wedge on one end and/or interference fitted plastic cap on the other.

Each PCF™ Safety Cartridge (RockCracker) contains a blend of single and double based propellants.

Warning: Initiation of propellant may occur from excessive heating, exposure to static, friction and impact.

Avoid all contact with other chemicals.

1.6 PHYSICAL PROPERTIES

Boiling Point (°C):	Not Applicable
Melting Point (°C):	Not Applicable
Vapour Pressure (kPa):	Negligible
Freezing Point (°C):	Not Applicable
Specific Gravity of Propellant:	0.75
Flash Point:	Not Applicable
Lower Explosive Limit:	Not Applicable
Upper Explosive Limit:	Not Applicable
Solubility in Water (Propellant):	Immiscible

1.7 CHEMICAL COMPONENTS

	Component	CAS No.	Proportion %
Propellant RBS-A	Nitrocellulose	9004-70-0	>90
	2, 4-dinitrotoluene	121-14-2	1-10
	Diphenylamine	122-39-4	<1
	Potassium Nitrate	7757-79-1	<1
	Potassium Sulphate	7778-80-5	<1
	Graphite	7782-42-5	<1
	Calcium Carbonate	471-34-1	<1
Propellant RBS-B	Nitrocellulose	9004-70-0	>85
	Nitroglycerin	55-63-0	10
	Diphenylamine	122-39-4	1
	Graphite	7782-42-5	<1

2. HEALTH HAZARD INFORMATION

2.1 HEALTH EFFECTS - CARTRIDGE STRUCTURE UNCOMPROMISED

ACUTE EFFECTS - CARTRIDGE STRUCTURE UNCOMPROMISED

Swallowed 27.5mm, 42mm and 60mm PCF™ Safety Cartridge (RocCracker)
 No Risk - Humans unable to swallow cartridge

Eye No Risk - All irritating material is contained within the cartridge.

Skin No Risk - All irritating material is contained within the cartridge.

Inhaled No Risk - All irritating material is contained within the cartridge.

CHRONIC EFFECTS - CARTRIDGE STRUCTURE UNCOMPROMISED No Risk

FIRST AID All potentially hazardous substances are sealed within the cartridge and as such do not pose a risk to users.

2.1 HEALTH EFFECTS - CARTRIDGE STRUCTURE COMPROMISED

ACUTE HEALTH AFFECTS - CARTRIDGE STRUCTURE COMPROMISED

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. Repeated contact may lead to dermatitis.
Inhaled	Propellant dust / particulate may be irritating to the upper respiratory tract and lungs. The decomposition vapours are harmful to the upper respiratory tract and lungs if inhaled in large volume.

CHRONIC HEALTH AFFECTS - CARTRIDGE STRUCTURE COMPROMISED

If the PCF® Safety Cartridge (RocCracker) structure is compromised, principal routes of exposure may be by skin contact and inhalation of propellant particles and / or generated dust.

The principal hazard is related to the potential of fire and associated physical injury and potential toxic fume inhalation.

One ingredient of the product has caused skin sensitisation reactions, shown as localised reddening and hives, or may produce respiratory sensitisation characterised by asthma-like symptoms and runny nose.

As with any chemical product, contact with unprotected bare skin; inhalation of vapour, mist or dust in work place atmosphere; or ingestion in any form, should be avoided by observing good occupational work practice.

Short term exposure by all routes is considered to be practically non-harmful.

FIRST AID

Swallowed	<ul style="list-style-type: none">• DO NOT induce vomiting.• Give water (or milk to rinse out mouth), then provide liquid slowly and as much as the patient 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: <ul style="list-style-type: none">• 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.• Skilled personnel should only undertake the removal of contact lenses after an eye injury.
Skin	If the propellant comes into contact with the skin: <ul style="list-style-type: none">• Wash affected area thoroughly with water (and soap if available).• Seek medical attention in the event of irritation.
Inhaled	If the propellant particles or combustion products are inhaled: <ul style="list-style-type: none">• Remove patient 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.

EXPOSURE STANDARDS

None assigned. Refer to Individual constituents

Exposure Standards for Mixture

“Worst Case” computer aided prediction of vapour components/concentrations:

Composite Exposure Standard for Mixture (TWA): 0.4800mg/m3.

If the breathing zone concentration of ANY of the components listed below is exceeded, “Worst Case” considerations deem the individual to be over-exposed.

Component	Breathing Zone		Mixture Conc. (%)
	Ppm	Mg/m3	
Nitroglycerin	0.05	0.4600	10.0
Nitrocellulose		4.0480	88.0
Diphenylamine		0.0460	1.0
Graphite		0.0460	1.0

Ingredient Data

- NITROCELLULOSE: No significant acute toxicological data identified in literature search.
- NITROGLYCERIN: TOXICITY IRRITATION
 Oral(rat) LD50: 105mg/kg Skin(rabbit):500mg/24h – Mild
 Intravenous(man) TDLo:51.429mg/kg/2D-1
 Substance has been investigated as a tumorigen, mutagen and reproductive effector.
 Equivocal tumirogen by RTECS criteria
 Reproductive effector in rats
- DIPHENYLAMINE: TOXICITY IRRITATION
 Oral(rat) LDLo:3000mg/kg Irritant
 ADI:0.02 mg/kg/day
 NOEL:1.5mg/kg/day
- GRAPHITE: No significant acute toxicological data identified in literature search.

ADVICE TO DOCTORS

Treat symptomatically and as for exposure to nitro compounds.
 Delayed Pulmonary Oedema may result following exposure to nitrous oxides formed on thermal decompositions.

3. SAFE HANDLING - STORAGE AND TRANSPORT

3.1 STORAGE REQUIREMENTS

- Store PCF™ Safety Cartridges (RocCracker) in original packaging.
- Keep packaging securely sealed until ready for use.
- No smoking, naked lights, heat or ignition sources within 10 metres of storage location.
- Store PCF™ Safety Cartridges (RocCracker) 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 (ie: acids, alkalis, oxidizing/reducing agents and flammable chemicals).
- Protect PCF™ Safety Cartridge (RocCracker) packaging against physical damage.
- Regularly check storage container and packaging.

3.2 STORAGE INCOMPATIBILITY

- Store in an area away from other materials (ie: acids, alkalis, oxidizing/reducing agents and flammable chemicals).
- Avoid any contamination of the material contained in the PCF® Safety Cartridge (RocCracker) as it is very reactive and any contamination is potentially hazardous.
- Avoid contact with other explosives, pyrotechnics, solvents, adhesives, paints, cleaners and unauthorised metals, plastics, packaging equipment and materials.
- Avoid contamination with acids, alkalis, reducing agents, amines and phosphorous.
- **Do not store in airtight containers to avoid the risk of the storage container rupturing violently in the event of the PCF® Safety Cartridge (RocCracker) inside igniting when subjected to fire or extreme heat.**

3.3 TRANSPORT

- PCF® Safety Cartridges (RocCracker) 27.5mm, 42mm and 60mm range are classified 1.4C UN0351 and as such may be transported within regulatory guidelines.
- PCF® Safety Cartridges (RocCracker) are approved for transport under the following codes:
 1. The Australian Explosives Code (AEC) transport by road and rail.
 2. United Nations Recommendations on the Transport of Dangerous Goods Model Regulations.
 3. IATA Dangerous Goods Regulations for airfreight.
- PCF® Safety Cartridge (RocCracker) should be transported in the original packaging and segregated from strong acids, strong alkalis and strong oxidisers.

3.4 FIRE HAZARD

In the event of a fire, clear area of personnel and move upwind.

Propellants contained within the PCF™ Safety Cartridges (RocCracker) are sensitive to heat and will burn with rapidly increasing intensity of fire.

Heating of cartridges may cause expansion or decomposition of the propellant leading to the ejection of cartridge capping.

Avoid all excessive heat as it may cause a cartridge to initiate.

Extinguishing a Fire: Nitrocellulose provides its own oxygen for combustion and the smothering action of foam or dry chemical extinguishers may be ineffective. **Therefore the use of water based extinguishing methods will be more effective.**

3.3 MINOR SPILLS

In the event that propellant from a PCF™ Safety Cartridge (RocCracker) should be spilt the following action should be taken:

1. Clear up all spills immediately.
2. Avoid contact with the skin and eyes.
3. Remove all ignition sources.
4. Wear impervious gloves and safety glasses.
5. Use spark free tools when handling propellant.
6. Sweep into non-sparking containers.
7. Place spilled material in a clean, sealable, labelled container for disposal.
8. Flush the area with water as necessary.

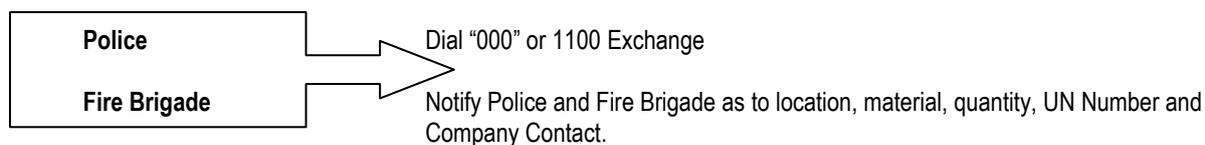
3.4 DISPOSAL

- PCF® Safety Cartridges (RocCracker) may be disposed of by burning or initiation but the operation may only be performed under the control of a person trained in the safe destruction of explosives.
- Consult manufacturer for disposal options.

4. CONTACT POINTS

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

EMERGENCY CONTACT



COMPANY CONTACT

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