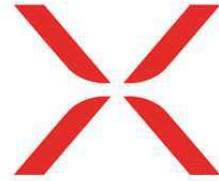


SAFETY DATA SHEET

(in accordance with Regulation (EU) No 453/2010)

RIOBOOSTER / RIOSEIS / RIOSEIS P / RIOSEIS DE P



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SECTION 1: IDENTIFICATION OF THE MIXTURE AND OF THE COMPANY/UNDERTAKING.

1.1 Product identifier.

Product Name: RIOBOOSTER / RIOSEIS / RIOSEIS P / RIOSEIS DE P

1.2 Relevant identified uses of the mixture and uses advised against.

Explosive initiation for blasting or as an explosive itself.

Uses advised against:

Uses other than those recommended.

1.3 Details of the supplier of the safety data sheet.

Company: **Maxam UK, Ltd.**
Address: Moore Close, Off Tupton Way, Park Road Holmewood Industrial Park
City: S42 5UY - Chesterfield
Telephone: + (44) 7919563714
Fax: + (44) 1246855676
Web: www.maxam.net

1.4 Emergency telephone number: + (44) 1246859366 (Only available during office hours; Monday-Friday; 08:00-18:00)

SECTION 2: HAZARDS IDENTIFICATION.

2.1 Classification of the mixture.

In accordance with Regulation (EU) No 1272/2008:

Acute Tox. 3 : Toxic in contact with skin or if inhaled.

Acute Tox. 3 : Toxic if inhaled.

Acute Tox. 3 : Toxic if swallowed, in contact with skin or if inhaled.

Aquatic Chronic 2 : Toxic to aquatic life with long lasting effects.

Expl. 1.1 : Explosive; mass explosion hazard.

STOT RE 2 : May cause damage to organs through prolonged or repeated exposure.

2.2 Label elements.

Labelling in accordance with Regulation (EU) No 1272/2008:

Pictograms:



Signal Word:

Danger

H statements:

H201 Explosive; mass explosion hazard.

P statements:

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P501 Dispose of contents/container in accordance with applicable local regulations

2.3 Other hazards.

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The product may have the following additional risks:

Improper handling of the product may cause it to explode and this may lead to injuries due to projection of particles.

These products may detonate in masse by shock, friction, fire, sparks, electrostatic discharges or sympathetic explosions, causing great surge pressure and heat. This can cause serious physical injuries and even death.

Resulting fumes from the detonation or combustion are toxic and contain nitrogen oxides, (NOX) and odourless and colourless carbon oxides (CO and CO₂). The symptoms caused by exposure to toxic fumes from the detonation are: headaches, nausea, fatigue, confusions and fainting. Inhalation can irritate the respiratory system and cause bronchitis, bronchopneumonia and even, in severe cases, pulmonary edema and death.

Blasting of rocks can cause large fragments, in unstable positions, with risks of breaking off and flying parts.

IMPORTANT: Do not use this product in work sites that contain or may contain flammable gases or powders.

IMPORTANT: Surface and inside blasting can cause residual smoke to go through the subsoil to confined spaces (including tunnels, wells, basements, etc.) where it can accumulate and remain for a long time. If you have to enter them after an explosion, always follow the rules for entering confined spaces and check for the presence of toxic fumes before entering.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS.

3.1 Substances.

Not Applicable.

3.2 Mixtures.

Substances posing a danger to health or the environment in accordance with the Regulation (EC) No. 1272/2008, assigned a Community exposure limit in the workplace, and classified as PBT/vPvB or included in the Candidate List:

Identifiers	Name	Concentrate	(*)Classification - Regulation (EC) No 1272/2008	
			Classification	specific concentration limit
Index No: 609-008-00-4 CAS No: 118-96-7 EC No: 204-289-6 Registration No: 01-2119860061-49-XXXX	[1] 2,4,6-trinitrotoluene,TNT	31 - 50 %	Acute Tox. 3 *, H311 - Acute Tox. 3 *, H331 - Acute Tox. 3 *, H301 - Aquatic Chronic 2, H411 - Expl. 1.1, H201 - STOT RE 2 *, H373 **	-

(*) The complete text of the H phrases is given in section 16 of this Safety Data Sheet.

* ** See Regulation (EC) No. 1272/2008, Annex VI, section 1.2.

[1] Substance with a Community workplace exposure limit (see section 8.1).

SECTION 4: FIRST AID MEASURES.

4.1 Description of first aid measures.

In case of doubt or when symptoms of feeling unwell persist, get medical attention. Never administer anything orally to persons who are unconscious.

Inhalation.

If wearing contact lenses, remove them. If breathing is irregular or stops, perform artificial respiration. Do not administer anything orally. If unconscious, place them in a suitable position and seek medical assistance.

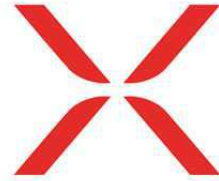
In case of inhalation of toxic smoke resulting from detonation or burning, remove the affected area and take you outdoors. Prior to the withdrawal of the affected, make sure the total dissipation of smoke, or, if necessary, appropriate personal protective equipment, (unit autonomous respiratory, mask with its proper filter, etc...).

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IMPORTANT: in case of any exposure to these toxic smoke, do need an immediate medical examination. There is a risk of suffering from an edema of lung effect delayed to such exposure

Eye contact.

If wearing contact lenses, remove them. Wash eyes with plenty of clean and cool water for at least 10 minutes while pulling eyelids up, and seek medical assistance.

Skin contact.

Remove contaminated clothing. Wash skin vigorously with water and soap or a suitable skin cleaner. **NEVER** use solvents or thinners.

Ingestion.

If accidentally ingested, seek immediate medical attention. Keep calm. **NEVER** induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed.

Toxic Product, accidental contact may result in serious respiratory difficulties, alteration of the central nervous system and in extreme cases, unconsciousness. Immediate medical assistance is required.

4.3 Indication of any immediate medical attention and special treatment needed.

In case of doubt or when symptoms of feeling unwell persist, get medical attention. Never administer anything orally to persons who are unconscious.

SECTION 5: FIREFIGHTING MEASURES.

5.1 Extinguishing media.

Recommended extinguishing methods.

Withdraw to an appropriate safety distance, isolate the area and notify the authorities. Allow the fire to burn out and only act to avoid the fire spreading to other products.

NEVER ATTEMPT TO EXTINGUISH THE FIRE

Everyone must move away to a safe distance/area

5.2 Special hazards arising from the mixture.

Special risks.

Fire can cause thick, black smoke. As a result of thermal decomposition, dangerous products can form: carbon monoxide, carbon dioxide. Exposure to combustion or decomposition products can be harmful to your health.

If these products catch fire, there is an extreme risk of mass detonation and may cause serious injuries.

5.3 Advice for firefighters.

See section 5.1 of this Safety Data Sheet

SECTION 6: ACCIDENTAL RELEASE MEASURES.

6.1 Personal precautions, protective equipment and emergency procedures.

For exposure control and individual protection measures, see section 8.

Avoid any source of flames, heat, electro-static discharges or radiofrequency energy. Do not smoke. Avoid any type of shock and friction. Do not tread on any spillages of the product.

6.2 Environmental precautions.

Prevent the contamination of drains, surface or subterranean waters, and the ground.

6.3 Methods and material for containment and cleaning up.

The contaminated area should be immediately cleaned with an appropriate de-contaminator.

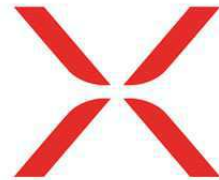
Confine and isolate the spillage zone. Do not step on the spilled product. Isolate the spillage zone. Remove any damaged box. If the packaging is broken, seal with adhesive tape. Avoid any factors that affect the stability of the product. Do not use the damaged product.

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The damaged product should be placed in a ventilated area, out of the sun and far from oxidizing or flammable products until it is destroyed, which shall take place under the direct supervision of a qualified person in accordance with current regulations. Notify the authorities.

6.4 Reference to other sections.

For exposure control and individual protection measures, see section 8.
For later elimination of waste, follow the recommendations under section 13.

SECTION 7: HANDLING AND STORAGE.

7.1 Precautions for safe handling.

For personal protection, see section 8. Never use pressure to empty the containers. They are not pressure-resistant containers. In the application area, smoking, eating, and drinking must be prohibited. Follow legislation on occupational health and safety. Keep the product in containers made of a material identical to the original.

7.2 Conditions for safe storage, including any incompatibilities.

Store according to local legislation. Observe indications on the label. Store the containers below 50 °C, in a dry and well-ventilated place, far from sources of heat and direct solar light. Keep far away from ignition points. Keep away from oxidising agents and from highly acidic or alkaline materials. Do not smoke. Prevent the entry of non-authorized persons. Once the containers are open, they must be carefully closed and placed vertically to prevent spills. Classification and threshold amount of storage in accordance with Annex I to Directive 2012/18/EU (SEVESO III)::

Code	Description	Qualifying quantity (tonnes) for the application of	
		Lower-tier requirements	Upper-tier requirements
P1a	EXPLOSIVES	10	50

Store the product away from detonators or primary explosives.

7.3 Specific end use(s).

Explosive initiation for blasting or as an explosive itself.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION.

8.1 Control parameters.

Work exposure limit for:

Name	CAS No.	Country	Limit value	ppm	mg/m ³
2,4,6-trinitrotoluene, TNT	118-96-7	United Kingdom [1]	Eight hours		0,5
			Short term		

[1] According Limit Value (IOELV) list in 2nd Indicative Occupational Exposure adopted by Health and Safety Executive.

The product does NOT contain substances with Biological Limit Values.

8.2 Exposure controls.

Measures of a technical nature:

Provide adequate ventilation, which can be achieved by using good local exhaust-ventilation and a good general exhaust system.

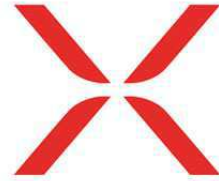
Concentration:	100 %
Uses:	Explosive initiation for blasting or as an explosive itself.
Breathing protection:	
If the recommended technical measures are observed, no individual protection equipment is necessary.	
Hand protection:	

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PPE:	Work gloves.		
Characteristics:	«CE» marking, category I.		
CEN standards:	EN 374-1, EN 374-2, EN 374-3, EN 420		
Maintenance:	Keep in a dry place, away from any sources of heat, and avoid exposure to sunlight as much as possible. Do not make any changes to the gloves that may alter their resistance, or apply paints, solvents or adhesives.		
Observations:	Gloves should be of the appropriate size and fit the user's hand well, not being too loose or too tight. Always use with clean, dry hands.		
Material:	PVC (polyvinyl chloride)	Breakthrough time (min.):	> 480
		Material thickness (mm):	0,35
Eye protection:			
PPE:	Protective goggles against particle impacts.		
Characteristics:	«CE» marking, category II. Eye protector against dust and smoke.		
CEN standards:	EN 165, EN 166, EN 167, EN 168		
Maintenance:	Visibility through lenses should be ideal. Therefore, these parts should be cleaned daily. Protectors should be disinfected periodically following the manufacturer's instructions.		
Observations:	Some signs of wear and tear include: yellow colouring of the lenses, superficial scratching of the lenses, scraping etc.		
Skin protection:			
PPE:	Protective clothing.		
Characteristics:	«CE» marking, category II. Protective clothing should not be too tight or loose in order not to obstruct the user's movements.		
CEN standards:	EN 340		
Maintenance:	In order to guarantee uniform protection, follow the washing and maintenance instructions provided by the manufacturer.		
Observations:	The protective clothing should offer a level of comfort in line with the level of protection provided in terms of the hazard against which it protects, bearing in mind environmental conditions, the user's level of activity and the expected time of use.		
PPE:	Work footwear.		
Characteristics:	«CE» marking, category II.		
CEN standards:	EN ISO 13287, EN 20347		
Maintenance:	This product adapts to the first user's foot shape. That is why, as well as for hygienic reasons, it should not be used by other people.		
Observations:	Work footwear for professional use includes protection elements aimed at protecting users against any injury resulting from an accident		



SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES.

9.1 Information on basic physical and chemical properties.

Appearance: Cardboard or plastic cover filled with an explosive mixture. Mixture color varies from yellow to dark brown.

Colour: N.A./N.A.

Odour: No characteristic smell

Odour threshold: N.A./N.A.

pH: N.A./N.A.

Melting point: 80 °C

Boiling Point: N.A./N.A.

Flash point: N.A./N.A.

Evaporation rate: N.A./N.A.

Inflammability (solid, gas): N.A./N.A.

Lower Explosive Limit: N.A./N.A.

Upper Explosive Limit: N.A./N.A.

Vapour pressure: N.A./N.A.

Vapour density: N.A./N.A.

Relative density: N.A./N.A.

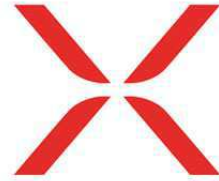
Solubility: N.A./N.A.

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Liposolubility: N.A./N.A.
Hydrosolubility: N.A./N.A.
Partition coefficient (n-octanol/water): N.A./N.A.
Auto-ignition temperature: N.A./N.A.
Decomposition temperature: N.A./N.A.
Viscosity: N.A./N.A.
Explosive properties: YES
Oxidizing properties: N.A./N.A.
N.A./N.A. = Not Available/Not Applicable due to the nature of the product

9.2. Other information.

VOC content (p/p): 40 %
VOC content: **660** g/l

SECTION 10: STABILITY AND REACTIVITY.

10.1 Reactivity.

The product does not present hazards by their reactivity.

10.2 Chemical stability.

Stable under the recommended handling and storage conditions (see section 7).

10.3 Possibility of hazardous reactions.

The product does not present possibility of hazardous reactions.

10.4 Conditions to avoid.

Avoid any improper handling.

10.5 Incompatible materials.

Keep away from oxidising agents and from highly alkaline or acidic materials in order to prevent exothermic reactions.

10.6 Hazardous decomposition products.

Depending on conditions of use, can be generated the following products:

- COx (carbon oxides).
- Organic compounds.
- Aromatics compounds.

SECTION 11: TOXICOLOGICAL INFORMATION.

11.1 Information on toxicological effects.

Repeated or prolonged contact with the product can cause the elimination of oil from the skin, giving rise to non-allergic contact dermatitis and absorption of the product through the skin.
Splatters in the eyes can cause irritation and reversible damage.

a) acute toxicity;

Product classified:

Acute toxicity (Dermal), Category 3: Toxic in contact with skin.

Acute toxicity (Inhalation), Category 3: Toxic if inhaled.

Acute toxicity (Oral), Category 3: Toxic if swallowed.

Acute Toxicity Estimate (ATE):

Mixtures:

ATE (Dermal) = 750 mg/kg

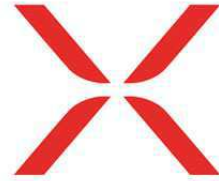
ATE (Inhalation) = 1750 mg/l/4 h (Gases)

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ATE (Inhalation) = 8 mg/l/4 h (Fumes)
ATE (Oral) = 250 mg/kg

b) skin corrosion/irritation;
Not conclusive data for classification.

c) serious eye damage/irritation;
Not conclusive data for classification.

d) respiratory or skin sensitisation;
Not conclusive data for classification.

e) germ cell mutagenicity;
Not conclusive data for classification.

f) carcinogenicity;
Not conclusive data for classification.

g) reproductive toxicity;
Not conclusive data for classification.

h) STOT-single exposure;
Not conclusive data for classification.

i) STOT-repeated exposure;
Product classified:
Specific target organ toxicity following a repeated exposure, Category 2: May cause damage to organs through prolonged or repeated exposure.

j) aspiration hazard;
Not conclusive data for classification.

SECTION 12: ECOLOGICAL INFORMATION.

12.1 Toxicity.

No information is available regarding the ecotoxicity of the substances present.

12.2 Persistence and degradability.

No information is available about persistence and degradability of the product.

12.3 Bioaccumulative potencial.

No information is available regarding the bioaccumulation of the substances present.

12.4 Mobility in soil.

No information is available about the mobility in soil.
The product must not be allowed to go into sewers or waterways.
Prevent penetration into the ground.

12.5 Results of PBT and vPvB assessment.

No information is available about the results of PBT and vPvB assessment of the product.

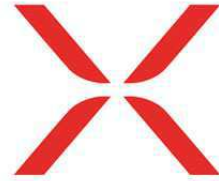
12.6 Other adverse effects.

No information is available about other adverse effects for the environment.

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SECTION 13 DISPOSAL CONSIDERATIONS.

Destruction of explosives should be carried out by specialised personnel, using controlled processes and installations authorised by the competent bodies. Consult your manufacturer and/or distributor.

13.1 Waste treatment methods.

Do not dump into sewers or waterways. Waste and empty containers must be handled and eliminated according to current, local/national legislation.

Follow the provisions of Directive 2008/98/EC regarding waste management.

SECTION 14: TRANSPORT INFORMATION.

Transport following ADR rules for road transport, RID rules for railway, ADN for inner waterways, IMDG for sea, and ICAO/IATA for air transport.

Land: Transport by road: ADR, Transport by rail: RID.

Transport documentation: Consignment note and written instructions

Sea: Transport by ship: IMDG.

Transport documentation: Bill of lading

Air: Transport by plane: ICAO/IATA.

Transport document: Airway bill.

14.1 UN number.

UN No: UN0042

14.2 UN proper shipping name.

Description: UN 0042, BOOSTERS, 1, (B1000C)

14.3 Transport hazard class(es).

Class(es): 1

14.4 Packing group.

Packing group: Not applicable.

14.5 Environmental hazards.

Marine pollutant: Yes

14.6 Special precautions for user.

Labels: 1



Hazard number: Not applicable.

ADR LQ: 0

Provisions concerning carriage in bulk ADR: Not authorized carriage in bulk in accordance with ADR.

Transport by ship, FEm – Emergency sheets (F – Fire, S - Spills):

Proceed in accordance with point 6.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code.

The product is not transported in bulk.

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SECTION 15: REGULATORY INFORMATION.

15.1 Safety, health and environmental regulations/legislation specific for the mixture.

The product is not affected by the Regulation (EC) No 1005/2009 of the European Parliament and of the Council of 16 September 2009 on substances that deplete the ozone layer.

See annex I of the Directive 96/82/EC of 9 December 1996 on the control of major-accident hazards involving dangerous substances.

Product classification according to Annex I of Directive 2012/18/EU (SEVESO III): P1a

The product is not affected by Regulation (EU) No 528/2012 concerning the making available on the market and use of biocidal products.

The product is not affected by the procedure established Regulation (EU) No 649/2012, concerning the export and import of dangerous chemicals.

15.2 Chemical safety assessment.

There has been no evaluation a chemical safety assessment of the product.

SECTION 16: OTHER INFORMATION.

Complete text of the H phrases that appear in section 3:

H201	Explosive; mass explosion hazard.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.

Classification codes:

Acute Tox. 3 [Dermal] : Acute toxicity (Dermal), Category 3
Acute Tox. 3 [Inhalation] : Acute toxicity (Inhalation), Category 3
Acute Tox. 3 [Oral] : Acute toxicity (Oral), Category 3
Aquatic Chronic 2 : Chronic effect to the aquatic environment, Category 2
Expl. 1.1 : Explosive Division 1.1
STOT RE 2 : Specific target organ toxicity following a repeated exposure, Category 2

Sections changed compared with the previous version:

1,2,3,4,7,8,9,10,11,14,16

It is advisable to carry out basic training with regard to health and safety at work in order to handle this product correctly.

Labelling in accordance with Directive 1999/45/EC:

Symbols:

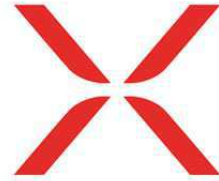


R Phrases:

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R3 Extreme risk of explosion by shock, friction, fire or other sources of ignition.

S Phrases:
S60 This material and its container must be disposed of as hazardous waste.

Abbreviations and acronyms used:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
CEN: European Committee for Standardization.
PPE: Personal protection equipment.
IATA: International Air Transport Association.
IMDG: International Maritime Code for Dangerous Goods.
RID: Regulations Concerning the International Transport of Dangerous Goods by Rail.

Key literature references and sources for data:

<http://eur-lex.europa.eu/homepage.html>
<http://echa.europa.eu/>
Regulation (EU) No 453/2010.
Regulation (EC) No 1907/2006.
Regulation (EU) No 1272/2008.

The information given in this Safety Data Sheet has been drafted in accordance with COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

The information in this Safety Data Sheet is given only in good faith (bona fide) and believing in its accuracy, based in the knowledge currently available for the product. MAXAM does not accept any commitment and/or any legal responsibility concerning the use and/or misuse of the information under whatever specific circumstances.