

SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

MIRAGE RDX CHARGE

Revision Date: 24-Nov-2010

Revision Number: 3

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Identifier

Product Name MIRAGE RDX CHARGE

Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Explosive Charge

Uses Advised Against No information available

Details of the supplier of the safety data sheet

Halliburton Energy Services
Halliburton House, Howemoss Place
Kirkhill Industrial Estate
Dyce
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United Kingdom

Emergency Phone Number: +44 1224 795277 or +1 281 575 5000

www.halliburton.com

For further information, please contact

E-Mail address: fdunexchem@halliburton.com**Emergency telephone number**

+44 1224 795277 or +1 281 575 5000

Emergency telephone \$45 - (EC)1272/2008

Europe	112
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Poisons Information (NO): + 47 22 591300
Poland	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
Spain	Poison Information Service (ES): +34 91 562 04 20
United Kingdom	NHS Direct (UK): +44 0845 46 47

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture**REGULATION (EC) No 1272/2008**

Acute Oral Toxicity	Category 3- H301
Acute Toxicity - Dermal	Category 3- H311
Acute Inhalation Toxicity - Vapors	Category 3- H331
Specific Target Organ Toxicity - (Single Exposure)	Category 1- H370
Specific Target Organ Toxicity - (Repeated Exposure)	Category 2- H373
Acute Aquatic Toxicity	Acute 2- H401

2. HAZARDS IDENTIFICATION

Classification according to EU Directives 67/548/EEC or 1999/45/EC

For the full text of the R-phrases mentioned in this Section, see Section 16

Classification E - Explosive.

Risk Phrases R2 Risk of explosion by shock, fire, friction, or other sources of ignition.

Label Elements

Hazard Pictograms



Signal Word

Danger

Hazard Statements

H204 - Fire or projection hazard

H301 - Toxic if swallowed

H311 - Toxic in contact with skin

H331 - Toxic if inhaled

H370 - Causes damage to organs

H373 - May cause damage to organs through prolonged or repeated exposure

H401 - Toxic to aquatic life

Contains

Substances

Cyclotrimethylenetrinitramine (RDX)

CAS Number

121-82-4

Precautionary Statements - EU (§28, 1272/2008)

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
 P240 - Ground/Bond container and receiving equipment
 P250 - Do not subject to grinding/shock/friction
 P260 - Do not breathe dust/fume/gas/mist/vapors/spray
 P264 - Wash face, hands and any exposed skin thoroughly after handling
 P270 - Do not eat, drink or smoke when using this product
 P280 - Wear protective gloves/protective clothing/eye protection/face protection
 P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
 P330 - Rinse mouth
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
 P312 - Call a POISON CENTER or doctor/physician if you feel unwell
 P361 - Remove/Take off immediately all contaminated clothing
 P363 - Wash contaminated clothing before reuse
 P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
 P311 - Call a POISON CENTER or doctor/physician
 P370 + P380 - In case of fire: Evacuate area
 P372 - Explosion risk in case of fire

Other Hazards

None known

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	EINECS	CAS Number	PERCENT	EEC Classification	EU - CLP Substance Classification	REACH No.
Cyclotrimethylenetrinitramine (RDX)	204-500-1	121-82-4	13.5-56.5 g	E; R2	EXPLOSIVE 1.1, H201 Acute Tox 3, H301 Acute Tox 3, H311 Acute Tox 3, H331 STOT SE 1, H370 STOT RE 2, H373	No data available

For the full text of the R-phrases mentioned in this Section, see Section 16

4. FIRST AID MEASURES**Description of first aid measures****Inhalation**

If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention.

Eyes

In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.

Skin

Wash with soap and water. Get medical attention if irritation persists.

Ingestion

Do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.

Most Important symptoms and effects, both acute and delayed

May cause eye, skin, and respiratory irritation. May cause headache, dizziness, and other central nervous system effects. May effect the blood's ability to carry oxygen.

Indication of any immediate medical attention and special treatment needed**Notes to Physician**

Treat symptomatically

5. FIREFIGHTING MEASURES**Extinguishing media****Suitable Extinguishing Media**

Do NOT fight fire. Isolate area and evacuate personnel to a safe area. Guard against intruders. Allow fire to burn itself out.

Extinguishing media which must not be used for safety reasons

None known.

Special hazards arising from the substance or mixture

Special Exposure Hazards

May detonate with impact or on heating. May explode and throw fragments 1 mile or more in fire. Evacuate all persons, including emergency responders.

Advice for firefighters**Special Protective Equipment for Fire-Fighters**

Not applicable.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Use only competent persons for cleanup.

See Section 12 for additional information

Environmental precautions

Prevent from entering sewers, waterways, or low areas.

Methods and material for containment and cleaning up

Isolate area and remove sources of friction, impact, heat, low level electrical current, and RF energy. Remove ignition sources and work with non-sparking tools.

Reference to other sections

See Section 12 for additional information.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Do NOT consume food, drink, or tobacco in contaminated areas. Avoid contact with eyes, skin, or clothing. Wash hands after use. Launder contaminated clothing before reuse.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

Conditions for safe storage, including any incompatibilities

Store only in ATF approved magazines. Keep away from friction, impact, and heat.

Specific End Use(s)**Exposure Scenario**

No information available

Other Guidelines

No information available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Substances	EU	UK OEL	Netherlands	France OEL	Germany MAK/TRK
Cyclotrimethylenetrinitramine (RDX)	Not applicable	1.5 mg/m ³	0,1 mg/m ³	1.5 mg/m ³	1,5 mg/m ³

Substances	Italy	Poland	Hungary	Czech Republic	Denmark
Cyclotrimethylenetrinitramine (RDX)	Not applicable	1 mg/m ³	Not applicable	Not applicable	Not applicable

Derived No Effect Level (DNEL)

No information available.

Predicted No Effect Concentration (PNEC)

No information available.

Exposure controls**Engineering Controls**

Use in a well ventilated area.

Personal protective equipment**Respiratory Protection**

Dust/mist respirator. (N95, P2/P3)

Hand Protection

Cloth gloves.

Skin Protection

Cotton coveralls, undergarments, and socks. Conductive soled shoes.

Eye Protection

Wear safety glasses or goggles to protect against exposure.

Other Precautions

None known.

Environmental Exposure Controls

No information available

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State: Solid
Odor: Odorless

Color: Metallic
Odor Threshold: No information available

Property
Remarks/ Method

Values

pH:	No data available
Melting Point/Range	No data available
Freezing Point/Range (C):	No data available
Boiling Point/Range	No data available
Flash Point	No data available
Evaporation rate	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Specific Gravity	No data available
Water Solubility	Insoluble in water
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available

Other information

VOC Content (%) No data available

10. STABILITY AND REACTIVITY

Reactivity

Not applicable

Chemical Stability

Stable

Possibility of Hazardous Reactions

Will Not Occur

Conditions to Avoid

May detonate with friction, impact, heat, and low level electrical current.

Incompatible Materials

Strong acids. Strong alkalis.

Hazardous Decomposition Products

Shrapnel. Oxides of nitrogen. Metal oxides. Carbon monoxide and carbon dioxide.

11. TOXICOLOGICAL INFORMATION

Information on Toxicological Effects

Acute Toxicity

Inhalation

May cause effects to the blood and blood system. May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness.

Eye Contact

May cause damage to the nervous, urinary, and reproductive systems. Nitrogen oxides generated during use are irritating to the respiratory system.

Skin Contact

May cause eye irritation.

May be absorbed through the skin and contribute to the symptoms listed under ingestion. Nitrogen oxides generated during use are skin irritants.

Ingestion

May cause abdominal pain, vomiting, nausea, and diarrhea.

Chronic Effects/Carcinogenicity

Prolonged or repeated exposure may cause blood forming system, nervous, urinary tract and reproductive system damage. Prolonged or repeated exposure may cause embryo and fetus toxicity.

11. TOXICOLOGICAL INFORMATION

Substances	LD50 Oral	LD50 Dermal	LC50 Inhalation
Cyclotrimethylenetrinitramine (RDX)	No data available	No data available	No data available

12. ECOLOGICAL INFORMATION**Toxicity**
Ecotoxicity Effects

Substances	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Cyclotrimethylenetrinitramine (RDX)	No information available	No information available	No information available	No information available

Persistence and degradability
No information available**Bioaccumulative potential**
No information available**Mobility in soil**
No information available**Results of PBT and vPvB assessment**
No information available.**Other adverse effects**
Endocrine Disruptor Information
This product does not contain any known or suspected endocrine disruptors**13. DISPOSAL CONSIDERATIONS****Waste treatment methods**
Disposal Method
Contaminated Packaging

Disposal should be made in accordance with federal, state, and local regulations.
Do NOT reuse container. Store only in ATF approved magazines.

14. TRANSPORT INFORMATION**IMDG/IMO**

UN Number: UN0440,
UN Proper Shipping Name: Charges, Shaped
Transport Hazard Class(es): , 1.4D
Packing Group: , II
EMS: EmS F-B, S-X

RID

UN Number: UN0440,
UN Proper Shipping Name: Charges, Shaped
Transport Hazard Class(es): , 1.4D
Packing Group: , II

ADR

UN Number: UN0440,

14. TRANSPORT INFORMATION

UN Proper Shipping Name: Charges, Shaped
Transport Hazard Class(es): , 1.4D
Packing Group: , II

IATA/ICAO

UN Number: UN0440,
UN Proper Shipping Name: Charges, Shaped
Transport Hazard Class(es): , 1.4D
Packing Group: , II

Special Precautions for User None

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable

15. REGULATORY INFORMATION**Safety, health and environmental regulations/legislation specific for the substance or mixture****International Inventories**

EINECS Inventory This product, and all its components, complies with EINECS
US TSCA Inventory All components listed on inventory or are exempt.
Canadian DSL Inventory All components listed on inventory or are exempt.

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

**Germany, Water Endangering
Classes (WGK)** Not determined.

Chemical Safety Assessment

No information available

16. OTHER INFORMATION**Full text of R-phrases referred to under Sections 2 and 3**

R2 Risk of explosion by shock, fire, friction, or other sources of ignition.

Key literature references and sources for data

www.ChemADVISOR.com/

Revision Date: 24-Nov-2010

Revision Note Not applicable

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer Statement

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End of Safety Data Sheet