



According to Resolution 801/15 of the Superintendency of Occupational Risks (SRT) and Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

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Version: 5.0

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: **HMX**

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

No further relevant information available.

Application of the substance / the mixture:

Raw material for the manufacture of other explosives or pyrotechnic devices.

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

E-Mail: apa.comercial@austinpowder.com

Information Department:

Austin Powder Argentina S.A. - Luis Maggi 770 - Rafaela (Santa Fe) - Phone: + 54 3492 434851 - Fax: + 54 3492 433905 88

1.4 Emergency telephone number:

+54 3492 424775 – 0800 666 2282 (CIPET)

SECTION 2: Hazards identification

2.1 Classification of the mixture

Classification according to GHS (Rev.5):

Hazard class	Code	Hazard Category
Expl. 1.1	H201	Division 1.1
Oral acute toxicity	H303	5
Acute aquatic	H402	3

Human and environmental-specific hazards:

Substances and goods that present a risk of mass explosion.

Hazard pictograms:



GHS01



GHS06



GHS08

Signal word: Danger

2.2 Label elements

The product must be labelled according to the established regulations listed in the "Globally Harmonized System of Classification and Labelling of Chemical Products", according to resolution 801/15 of the Labour Risks Superintendency (SRT).

Hazard statements:

H201 Explosive; mass explosion hazard.

H303 Can be harmful if swallowed

H402 Harmful for aquatic organisms.

Precautionary statements:

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P230 Keep humidified with greater than 25% humidity

P234 Keep only in the original packaging.



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P240	Container and receiving equipment earthing and equipotential link.
P250	Do not subject to grinding/shock/friction.
P273	Do not spread in the environment
P280	Wear protective gloves/protective clothing/eye protection/face protection.

2.3 Other hazards

Non- applicable

SECTION 3: Hazards identification

3.1 Substances

Chemical name:	Cyclotetramethylenetetranitramine
Synonyms:	HMX, octogen, octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine, 1,3,5,7-tetranitrooctahydro-1,3,5,7-tetrazocine, cyclotetramethylenetetranitramine.
Chemical formula:	C ₄ H ₈ N ₈ O ₈
Molecular weight:	296.2 g/mol
CAS number:	2691-41-0
Concentration:	> 95 %
Minimum% water:	15%

3.2 Chemical characterization: Mixtures

Non- applicable

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:

After inhalation:

Take the person to open air and keep them at rest in a comfortable position for breathing. Seek medical advice immediately.

After skin contact:

Wash with plenty of water and soap for at least 15 minutes. Remove contaminated clothing and footwear. Seek medical advice.

After eye contact:

Wash with plenty of water for 15 minutes keeping eyelids open. Seek medical advice.

After swallowing/ingestion:

Wash mouth with water. Never offer anything to eat to an unconscious person or if the person has seizures. If the person is conscious, do not induce vomiting. Seek medical care immediately.

4.2 Most important symptoms and effects, both acute and delayed

The substance can affect the central nervous system, leading to irritability, drowsiness, seizures, loss of consciousness and decrease in alertness. Prolonged or repeated exposure may affect the kidney and liver.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically

SECTION 5: Firefighting measures

DO NOT fight fires involving Explosives. There is an extreme risk that explosives involved in a fire may detonate, especially if confined. Evacuate the area in all directions for one (1) kilometer or more away for cover if any amount of explosives is involved in a fire. Evacuation is recommended if the initial (incipient) fire, not involving explosives, becomes intense.

5.1 Extinguishing media

Suitable extinguishing agents:

Suitable extinguishing media: do not fight fire. Evacuate personnel immediately. Let the fire extinguish by itself

5.2 Special hazards arising from the substance or mixture

Danger of explosion when exposed to fire. Do not breathe toxic gases from combustion



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5.3 Advice for firefighters

Protective equipment:

Do not extinguish fires. Use positive pressure self-contained breathing equipment. Firefighter equipment will provide only limited protection.

Additional information:

Tire or vehicle fire: use plenty of water and flood the fire. If there is no water available, use CO₂, dry chemical powder or mud. If the fire is on the charge, do not fight it. Evacuate immediately.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate the area and isolate at least 500 meters. Ventilate closed spaces before entering. Avoid all sources of heat, flames, electrostatic discharge. No smoking. Avoid all kinds of shocks and frictions. Do not tread on the poured product

6.2 Environmental precautions

Do not spill in culverts, gutters or drainages.

6.3 Methods and material for containment and cleaning up

Pick up and place spilled material in suitable cardboard or plastic containers for immediate disposal. Do not smoke or initiate fire near the spill area. All the equipment used during the handling of the product must be electrically grounded. Use appropriate personal protective equipment.

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical measures: Use proper protective equipment.

Precautions: Protect containers from physical damage.

Recommendations on safe handling: Avoid contact with incompatible materials

7.2 Conditions for safe storage, including any incompatibilities

Storage

Requirements to be met by storerooms and receptacles:

Store in closed original containers until use, at room temperature and in a dry and well-ventilated place. Keep away from heat, sources of ignition and open flames.

Information about storage in one common storage facility:

Technical measures: Store away from incompatible materials and substances.

Storage conditions: Do not expose to sunlight.

Incompatible products: Strong alkali or acids.

Packaging materials: Cardboard boxes and polyethylene bags.

Further information about storage conditions:

No data available

7.3 Specific end use(s)

No further relevant information available.

SECTION 8: Exposure controls/personal protection

Additional information about design of technical systems:

8.1 Control parameters

Components with limit values that require monitoring at the workplace:

No national control limit values are available. Exposition should be evaluated according to applicable local rules.

Additional information: The lists that were valid during creation were used as the basis.

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8.2 Exposure controls

Personal protective equipment:**General protective and hygienic measures:**

Reduce the number of individuals at the work area to the minimum. Authorized personnel only

Breathing equipment:

Not required under normal conditions

Protection of hands:

Not required, except to avoid injuries by abrasion and to reduce contact with the skin.

Material of gloves:

Neoprene, natural rubber

Eye protection:

Not required under normal conditions.

Body protection:

Use appropriate clothing.

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties**· General Information****· Appearance:**

Form:	Solid
Color:	Crystal white
Odor:	Odourless

· pH-value: Not available.**· Change in condition****Boiling point/Boiling range:** 276-286°C**· Flash point:** Not available**· Flammability (solid, gaseous):** Not available**· Ignition temperature:** Not available**Decomposition temperature:** Not available**· Deflagration point:** 287°C**· Self igniting:** Not available.**· Danger of explosion:** Danger of explosion due to impact, friction, fire and other sources of ignition. The heat can cause an explosion.**· Vapor pressure:** Not applicable.**· Density at 20 °C:** Not available**· Solubility in / Miscibility with****Water:** Not available**· Solvent content:****Organic solvents:****Solids content:****· 9.2 Other information** No further relevant information available.



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SECTION 10: Stability and reactivity

10.1 Reactivity

Avoid contact with oxidizing agents and strong acids.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous polymerization will not occur

10.4 Conditions to be avoided

Heat, sparks, flames and high temperatures (do not exceed 270°C) and shock.

10.5 Incompatible materials

Alkalis, strong acids.

10.6 Hazardous decomposition products

Gaseous nitrogen oxides and carbon oxides in case of fire

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity:

Oral DL50 rats: 2000-6500 mg/kg

Dermal DL50 rats: > 5000 mg/kg

Inhalation CL50 rats: No data available

Primary irritant effect:

on the skin: Non-irritating

on the eye: Non-irritating

Sensitization: No sensitizing effects known.

Additional toxicological information:

Non-carcinogenic.

Non-mutagenic.

Symptoms related to the physical, chemical and toxicological characteristics:

The substance can affect the central nervous system, leading to irritability, drowsiness, seizures, loss of consciousness and decrease in alertness. Prolonged or repeated exposure may affect the kidney and liver.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

Toxicity for fish: CL50 (Pimephales promelas) 96 hs: 15 mg/L

Toxicity for algae: CE50 (Selenastrum capricornutum) 96 hs: > 32 mg/L

12.2 Persistence and degradability

Not available.

12.3 Bio-accumulative potential

Not available.

12.4 Mobility in soil

Not available.

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Not available

General notes:**12.5 Other adverse effects**

No further relevant information available.

SECTION 13: Disposal considerations


13.1 Waste treatment methods**Recommendation**

Dispose material according to local or state regulations, under the direct supervision of qualified personnel. Call Austin Powder for recommendations and assistance. This product can be hazardous under certain conditions and it must be picked, tagged and disposed immediately.

Uncleaned packaging:

Recommendations: Incineration.

SECTION 14: Transport information

· 14.1 UN-Number · ADR, IMDG , IATA	UN 0226
· 14.2 UN proper shipping name · ADR · MERCOSUR · IMDG: · IATA	HMX WETTED HMX WETTED HMX WETTED Prohibited
· 14.3 Transport hazard class(es) · ADR, IMDG	
· Class · Label	1.1 D 1
· IATA · Class	1.1 D (Forbidden)
· 14.4 Packing group · ADR, IMDG	Non-applicable
· 14.5 Environmental hazards · Marine pollutant:	Yes
· 14.6 Special precautions for user · EMS Number: · Danger code (Kemler)	Warning: Do not transport with incompatible materials. Do not use flammable materials for stowage of packages. Do not transport with live animals. F-B, S-X Non-applicable
· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not listed.
· Transport/Additional information:	



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· ADR	
· Tunnel restriction code	B1000C
· IATA	
· Remarks:	Air transport ICAO-IATA/DGR (Forbidden).

SECTION 15: Regulatory information

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

National regulations

Law 19587 Regulatory decree 351/79 and Decree 295/2003

Law 20429 and decree 302/83

Resolution 801/15 of the Superintendency of Occupational Risks (SRT)

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Liability about information is not warranted although information is given to our best knowledge

Relevant phrases:

H201 Explosive; mass explosion hazard.

H303 Can be harmful if swallowed

H402 Harmful for aquatic organisms.

Recommended restriction of use

Handling of explosives is permitted only to persons with the appropriate permission.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

CAS: Chemical Abstracts Service (division of the American Chemical Society)

Expl. 1.1: Explosives, Division 1.1

Ox. Sol. 1: Oxidizing Solids, Hazard Category 1

Ox. Sol. 2: Oxidizing Solids, Hazard Category 2

Pyr. Sol. 1: Pyrophoric Solids, Hazard Category 1

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

Asp. Tox. 1: Aspiration hazard, Hazard Category 1