



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

1.1 Product identifier

Trade name: **Hydrox U**

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:

Explosives for commercial use.

Underground mining

Note the manufacturer's product information.

Use the product only within the framework of existing laws and regulatory approvals.

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
Ox. Sol. 2	H271	2
Acute Tox. 4	H302	4
Skin Irrit. 2	H315	2
Eye Irrit. 2	H319	2

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 pictograms:



GHS03



GHS07

Signal word: Danger.

Hazard statements:

H272 May intensify fire; oxidizer.

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.



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Precautionary statements:

P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P250	Do not subject to grinding/shock/friction.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P373	DO NOT fight fire when fire reaches explosives.
P306+P360	IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
P308+314	If exposed or concerned, or you do not feel well: Get medical attention.
P370+P372+P380+P373	In case of fire: Explosion risk. Evacuate area. DO NOT fight fire when fire reaches explosives.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P313	IF SWALLOWED: Get medical advice/attention.
P302+P352	IF ON SKIN: Wash with plenty of water.
P372	Explosion risk in case of fire.
P401	Store in accordance with local/regional/national/international regulations.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

In case of fire: Extreme risk of explosion. Evacuate area. **DO NOT** fight fire when fire reaches explosives.

SECTION 3: Hazards identification

3.1 Substances

Non-applicable

3.2 Mixtures

Chemical characterization

Name	CAS	GHS classification	Concentration
Ammonium nitrate	6484-52-2	Ox. Sol. 2, H272; Eye Irrit. 2, H319	50 – 80 %
Sodium nitrate	7631-99-4	Ox. Sol. 2, H272; Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	0 – 25 %
Tiourea	62-56-6	Acute tox. 4 - 302; Carc. 2 - H351; Repr. 2- H361; Aquatic Chronic 2 - H411	0-0.2%

Additional information: For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information: Personal protection for the First Aider. Take affected persons out into the fresh air. Take affected persons out of danger area and lay down. Never give anything by mouth to an unconscious person. If you feel unwell, get medical attention, show the label where possible.

After inhalation: Take affected persons into fresh air and keep quiet. Seek immediate medical advice. In case of unconsciousness place patient stably inside position for transportation.

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After skin contact: Immediately wash with water and soap and rinse thoroughly. Remove contaminated clothing. Wash contaminated clothing before reuse.

After eye contact: Rinse opened eye for several minutes under running water. Remove contact lenses, if present and easy to do so. If symptoms persist, consult a doctor.

After swallowing/ingestion: Rinse out mouth, seek medical treatment. DO NOT induce vomiting. Call for a doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms of poisoning may even occur after several hours, therefore medical observation for at least 48 hours after the accident.

Symptoms include methemoglobin formation through NO contact, pulmonary edema with a latency up to 48 hours.

In men with frequent inhalation: erectile dysfunction to impotency.

Information for doctor: Particularly for the prevention of pulmonary edema cortisone must be administered by inhalation (depending on the type of drug 5-10 inhalations).

Medical supervision of the patient at least for 72-96 hours.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

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: Explosive material, no firefighting!

5.2 Special hazards arising from the substance or mixture

Nitrogen oxides (NOx), Carbon monoxide (CO), Ammonia (NH₃)-fumes.

If product is directly involved in the fire:

Explosion hazard - no firefighting. Warn and evacuate the area. At least 1000 m away for cover. If product is not directly involved in the fire:

The fire from spreading to the product must be avoided. If possible, remove product from the danger zone.

5.3 Advice for firefighters

Protective equipment: Wear self-contained respiratory protective device. Wear fully protective suit.

Additional information: Collect contaminated firefighting water separately. It must not enter the sewage system.

Announcing risk of explosion!

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Keep away from ignition sources.

All persons whose presence is not necessary to remove from the affected area. Avoid contact with skin, clothes and eyes. Remove persons from danger area.

Wear protective equipment. Keep unprotected persons away. Avoid shock or friction.

6.2 Environmental precautions

No special measures required.

6.3 Methods and material for containment and cleaning up

Ensure adequate ventilation. Announcing risk of explosion!

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.



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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Handle with care. Avoid jolting, friction and impact. Keep receptacles tightly sealed.

Keep away from heat and direct sunlight.

Ensure good ventilation/exhaustion at the workplace. Open and handle receptacle with care.

Information about protection against explosions and fires: Fire extinguishers provide. Keep ignition sources away - Do not smoke.

Protect from heat. Prevent impact and friction. Use explosion-proof apparatus / fittings and spark-proof tools.

7.2 Conditions for safe storage, including any incompatibilities

Storage

Requirements to be met by storerooms and receptacles: For storage a national permit is required.

Information about storage in one common storage facility:

Store away from oxidizing agents. Store away from reducing agents.

Further information about storage conditions:

Store receptacle in a well-ventilated area. Keep receptacle tightly sealed.

Protect from heat and direct sunlight.

7.3 Specific end use(s)

No further relevant information available.

SECTION 8: Exposure controls/personal protection

Additional information about design of technical systems: No further data; see item 7.

8.1 Control parameters

Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

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

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures should be adhered to when handling chemicals. Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work. Do not inhale

gases / fumes / aerosols. Do not inhale dust / smoke / mist. Avoid

contact with the eyes and skin. Do not eat, drink, smoke while working.

Breathing equipment:

Not necessary if room is well-ventilated.

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Protection of hands:

Protective gloves.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

None required during handling of packaged products, in the cases of direct contact with the explosive mass

Gloves:

Material of gloves: Nitrile rubber, NBR Neoprene gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material:

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection: Safety glasses, tightly sealed goggles.



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Body protection: Protective work clothing.

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties	
· General Information	
· Appearance:	
Form:	Solid (In accordance with transport classification, also see Section 14)
Colour:	Yellow-brown
Odour:	Odorless to mineral oil like
· pH-value:	Not applicable.
· Change in condition	
Boiling point/Boiling range:	undetermined
· Flash point:	Not applicable
· Flammability (solid, gaseous):	Contact with combustible material may cause fire.
· Ignition temperature:	
Decomposition temperature:	>170 °C (danger of explosion)
· Self igniting:	Product is not self-igniting.
· Danger of explosion:	Explosive when mixed with combustible material. Heating may cause an explosion.
· Vapour pressure:	Not applicable.
· Density at 20 °C:	1.38 – 1.44 g/cm ³
· Solubility in / Miscibility with Water:	Not soluble
· Solvent content:	
Organic solvents:	0.0 %
Solids content:	100.0 %
· 9.2 Other information	Dynamic Viscosity 70000 – 130000 mPas

SECTION 10: Stability and reactivity

10.1 Reactivity

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

10.2 Chemical stability

The product is chemically stable under the recommended conditions of use.

10.3 Conditions to avoid:

Avoid: heat, flames, sparks. Shock, friction (explosive hazard)

10.4 Possibility of hazardous reactions

Thermal decomposition begins at 170 °C;

10.5 Incompatible materials

-) Acids
-) Alkali (lye)

Avoid contaminations with other chemical/substances, especially chloride containing compounds, copper, brass, all copper-alloys, chromates and zinc.



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10.6 Hazardous decomposition products

Nitrogen oxides (NOx), Carbon monoxide and carbon dioxide, Ammonia.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity: Not classified

Primary irritant effect:

on the skin: Irritant to skin and mucous membranes.

on the eye: Irritating effect.

Sensitization: No sensitizing effects known.

Additional toxicological information: The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version: Harmful, Irritant

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

Toxicity for fish: CL50 (Pimephales promelas) 96 hs: 100 mg/L Tiourea

Toxicity for algae: CE50 (Scenedesmus subspicatus) 96 hs: 4.8-10 mg/L. Tiourea.

12.2 Persistence and degradability

Easily biodegradable

12.3 Bio-accumulative potential

No further relevant information available.

12.4 Mobility in soil

No further relevant information available.

Ecotoxic effects:

Type of test Effective concentration Method Assessment:

Ammonium nitrate, CAS 6484-52-2

to aquatic organisms: LD50/96 h 10 - 100 ppm for fish 800 mg / L lethal in 3.9 hours

Sodium nitrate; 7631-99-4

Toxicity to fish LC50 > 1000 mg / L 96 h

Daphnia LC50 > 1000 mg / L 24 h

Additional ecological information:

General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

12.5 Other adverse effects

No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation Must be specially treated adhering to official regulations. Local laws and regulations must be followed

European waste catalogue: The disposal codes of the European list of wastes depend on the country of origin of the waste.

This product has got identified uses in various industries. This can be seen the reason why a definite disposal code cannot be stated.

The disposal code should be selected in agreement with disposer and/or the competent Authority.

Uncleaned packaging: To be treated like product itself.


Recommended cleansing agent: Water, if necessary, with cleansing agents.



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SECTION 14: Transport information

· 14.1 UN-Number · ADR, IMDG · MERCOSUR	UN 3375 UN 3139
· 14.2 UN proper shipping name · ADR · MERCOSUR · IMDG · IATA	AMMONIUM NITRATE EMULSION OXIDIZING LIQUID, N.O.S. (Ammonium Nitrate mixture, diesel oil) AMMONIUM NITRATE EMULSION AMMONIUM NITRATE EMULSION
· 14.3 Transport hazard class(es) · ADR, IMDG 	5.1 Oxidizing substances. 5.1
· 14.4 Packing group · ADR, IMDG	II
· 14.5 Environmental hazards · Marine pollutant:	No
· 14.6 Special precautions for user · EMS Number: · Danger code (Kemler)	Do not transport with incompatible materials. Do not use flammable materials for stowage of packages. Do not transport with live animals. F-H,S-Q 50
· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· ADR · Limited quantities (LQ): · Excepted quantities (EQ): · Transport category: · Tunnel restriction code: E	Tank code SGAV(+) 0 Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml 2
· IMDG · Limited quantities (LQ): · Excepted quantities (EQ):	0 Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· IATA · Remarks:	Air transport ICAO-IATA/DGR Prohibited.
· UN "Model Regulation":	UN 3375, AMMONIUM NITRATE EMULSION, 5.1, II



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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)

Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.

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

H272	May intensify fire; oxidizer.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation

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

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

Expl. 1.5: Explosives, Division 1.5

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

Flam Liq. 3: Flammable Liquid Category 3

Carc.2: Carcinogen Category 2

Aquatic chronic 2: Chronic aquatic toxicity Category 2