

Atrasorb DEFENSE 230

1. Product and company identification

1.1. Product identifier

Product name: **ATRASORB DEFENSE 230, without indicator (without color change) , with three options:**

- granules approximately 2.5 mm

Codes: 9141, 9142, 9142, 9143, 9144, 9146, 9147, 9208, 9209, 9220

- granules approximately 3.5 mm

Codes: 9148, 9149, 9150, 9151, 9152, 9153, 9154, 9210, 9211, 9221

- granules approximately 4.5 mm

Codes: 9020, 9034, 9036, 9045, 9046, 9047, 9048, 9049, 9186, 9222

REACH registration number: This product is a preparation. REACH registration number see chapter 3.

1.2. Other means of identification: data not available

1.3. Identified uses of the substance or mixture and uses not recommended

Identified uses: CO₂ (carbon dioxide) absorber in pills for use in submarines and wherever CO₂ absorption is required .

For additional information on applications, see "Instructions for Use".

1.4. Identification of the supplier of the Chemical Product Safety Information Sheet - FISPQ

Company: ATRASORB Industria de Produtos Hospitalares Ltda
email: delayrb@atrasorb.com.br

HEADQUARTERS: Rua Antônio de Macedo Soares, 266, Campo Belo
CEP 04607-000, São Paulo/SP - Brazil
Phone: + 55 11 5521-2076

BRANCH: Av. Piracicaba, 351 - Vila Nova São Roque
CEP 18131-230, São Roque/SP - Brazil
Phone: + 55 11 5521-2076

1.5. Emergency telephone number

São Paulo/SP: Phones: + 55 11 5521-2076
Pró-Química 24 hours: 0800 110 8270

2. Hazard identification

2.1. GHS Rating

Skin irritation

(Category 2)

Serious eye injuries

(Category 1)

Specific target organ toxicity - single exposure

(Category 3), Respiratory system

Acute toxicity to the aquatic environment

(Category 3)

2.2 Label elements

Pictogram



Signal word Danger

Hazard Phrases

H315	Causes skin irritation.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H402	Dangerous to aquatic organisms.

Precautionary Phrases

Prevention

P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash skin carefully after handling.
P271	Use only outdoors or in well-ventilated areas.
P273	Avoid release into the environment.
P280	Wear protective gloves/eye protection/face protection.

Response

P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep in a position comfortable for breathing. If you feel unwell, contact a POISON CENTER/doctor.
P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. If you wear contact lenses, remove them if possible. Continue rinsing. Immediately contact a POISON CENTER/doctor.
P332 + P313	If skin irritation occurs: seek medical advice.

Storage

P403 + P233	Store in a well-ventilated place. Keep the container tightly closed.
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Undoing

P501	Dispose of contents/container to an approved waste destruction facility.
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2.3. Other dangers

Not known.

3. Composition and information about ingredients

3.1 Substance: not applicable

3.2 Mixing

Chemical nature: Mixture of inorganic and organic components

Component	Classification	Concentration
Calcium hydroxide CAS No. 1305-62-0 CE nº 215-173-3	- Skin irritation (Category 2) - Serious eye injuries (Category 1) - Specific target organ toxicity - single exposure (Category 3), Respiratory system - Acute toxicity to the aquatic environment (Category 3)	≥ 68.0% - ≤ 75.0%
Sodium hydroxide CAS No. 1310-70-3 EC nº 215-185-5	- Corrosive to metals, Category 1 - Skin corrosion (Category 1A) - Serious eye injuries (Category 1) - Acute toxicity to the aquatic environment (Category 3)	≥ 1.5% - ≤ 2.0%
Potassium hydroxide CAS No. 1310-58-3 EC nº 215-181-3	- Corrosive to metals, Category 1 - Skin corrosion (Category 1A) - Serious eye injuries (Category 1) - Acute toxicity to the aquatic environment (Category 3)	≥ 1.0% - ≤ 1.5%

For the full text on the R phrases mentioned in this Section, see Section 16.

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4. First aid measures

4.1. Description of first aid measures

General recommendation

Consult a doctor. Show this safety data sheet to the doctor on duty.

After inhalation: Exposure to fresh air. If the victim is unwell, call a doctor.

After skin contact: Wash thoroughly with water. Remove contaminated clothing.

After eye contact: Rinse thoroughly with water. Consult an ophthalmologist immediately.

After ingestion: make the victim drink water immediately (two glasses maximum) Consult a doctor.

4.2. Most important symptoms and effects, acute and delayed

Irritation and corrosion, Cough, Shallow breathing.

Danger of corneal opacification.

4.3. Indication of immediate medical attention and necessary special treatment

There is no information available.

5. Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media: Adapt fire-fighting measures to local conditions and the surrounding environment.

Unsuitable extinguishing agents

No limitation of extinguishing agents is given for this substance/mixture.

5.2. Special hazards arising from the substance or mixture

Not combustible.

Possibility of formation of dangerous fumes in case of fire in nearby areas.

5.3. Precautions for firefighters

Special equipment to protect people involved in firefighting.

Do not stay in the danger zone without self-contained breathing apparatus suitable for breathing independent of the environment. To avoid contact with the skin, maintain a safe distance and wear suitable protective clothing.

Additional information

Avoid contamination of surface water and groundwater with firefighting water.

6. Control measures for spillage or leakage

6.1. Personal precautions, protective equipment and emergency procedures

Recommendations for personnel not involved in emergencies: Avoid contact with the substance. Avoid inhaling dust. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult a specialist.

Recommendations for emergency responders: Protective equipment, see section 8.

6.2 Environmental precautions

Do not dump waste into the sewer.

6.3 Containment and cleaning methods and materials

Cover drains. Collect, patch and pump leaks.

Observe possible material restrictions (see sections 7 and 10).

Absorb in a dry state. Disposing of waste. Post cleaning. Avoid the formation of dust.

6.4 Consult other sections

Indication on waste treatment, see section 13

7. Handling and storage

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In the packaging itself, in a covered environment without exposing the packaging to the elements.

- Avoid mechanical shocks or strong vibrations.
- Temperature range between -20°C to +50°C.
- Relative humidity between 10 and 90% (without condensation).
- The direction of the arrow regarding correct positioning.
- Maximum stacking = 5 boxes.

Follow instructions in item 8.

After opening, it is recommended that it be used within a maximum of 30 days and that the container remains protected from heat and light (preferably stored in its own box). After this period, it must be discarded according to item 13.

8. Exposure control and personal protection

8.1. Control parameters

Does not contain substances with occupational exposure limit values.

8.2. Exposure controls

Planning measures

Appropriate technical measures and work operations must take priority over the use of personal protective equipment.

See section 7.

Personal protection measures

The characteristics of body protection means must be selected depending on the concentration and quantity of toxic substances in accordance with the specific conditions of the workplace. The resistance of protective equipment to chemical agents must be clarified with suppliers.

Skin/eye protection
Well-fitting safety glasses

Hand protection
Full contact:

Glove substance: Nitrile rubber
Glove thickness: 0.11mm
Pause: > 480 min

Contact with splashes:

Glove substance: Nitrile rubber
Glove thickness: 0.11mm
Pause: > 480 min

Other protective equipment
Protective clothing
Breath protection
Necessary in case of powder formation.
Recommended Filter Type: PFF2 Filter

The entrepreneur must ensure that maintenance, cleaning and testing of respiratory protective devices are carried out in accordance with the producer's instructions. These measures must be adequately documented.

Environmental risk controls
Do not dump waste into the sewer.

9. Physical and chemical properties

9.1. Information on basic physicochemical properties

Solid physical state
White

to slightly yellowish or grayish color

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odorless odor	
Odor Limit	not applicable
pH at 50 g/l (20 °C):	alkaline, (filtered)
Melting point	No information available.
Boiling point	No information available.
Burning point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosive limit	No information available.
Upper explosive limit	No information available.
Vapor pressure	No information available.
Relative vapor density	No information available.
Relative density	No information available.
Solubility in water (20 °C)	insoluble
coefficient (n- octanol/water)	No information available.
ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamics	No information available.
Explosion risks	Not classified as explosive.
No oxidizing properties	

9.2. Other information

Bulk density	≥ 900 kg/m ³
Particle size	2.00 – 4.75 mm

10. Stability and reactivity

10.1. Reactivity

See section 10.3.

10.2. Chemical stability

Sensitive to the action of humidity

10.3. Possibility of dangerous reactions

Violent reactions are possible with acids, hydrogen sulfide, light metals, phosphorus, organic nitro-compounds
Danger of explosion in the presence of anhydrides

10.4. Conditions to avoid

Moisture.

10.5. Incompatible materials

Light metals

10.6. Hazardous decomposition products

There are no indications

11. Toxicological information

11.1. Information on toxicological effects

Mixture

Acute oral toxicity

Symptoms:

Irritation of:., Gastrointestinal tract

Acute inhalation toxicity

Symptoms:

- irritation of mucous membranes, coughing, shallow breathing, possible consequences: damage to the respiratory tract

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Acute dermal toxicity

This information is not available.

Skin irritation

Rabbit

Result: Does not cause skin irritation

OECD 404 Test Guidelines

(mixture test)

Eye irritation

Rabbit

Result: Causes serious eye damage.

OECD 405 Test Guidelines

(mixture test)

Danger of corneal opacification.

Mixture causes serious eye damage.

Awareness

This information is not available.

Germ cell mutagenicity

This information is not available.

Carcinogenicity

This information is not available.

Toxicity to reproduction and lactation

This information is not available.

Teratogenicity

This information is not available.

Specific target organ systemic toxicity - single exposure

May cause respiratory tract irritation.

Specific target organ systemic toxicity - repeated exposure

This information is not available.

Aspiration risk

This information is not available.

11.2. Additional information

Other hazardous properties cannot be excluded.

Handle in accordance with good industrial hygiene and safety practices.

Components**Calcium hydroxide**

Acute oral toxicity: LD50 rat: 7,340 mg/kg (IUCLID)

Skin irritation

Rabbit

Result: No irritation.

OECD 404 test guidelines for corrosive sweat/moisture.

Eye irritation

Rabbit

Result: Severe irritations (RTECS)

Sodium hydroxide**Skin irritation**

Rabbit

Result: Causes burns (RTECS)

Eye irritation

Rabbit

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Result: Causes burns (RTECS)

Germ cell mutagenicity
In vitro genotoxicity
Mutagenicity (test on mammalian cells): micronuclei.
Result: negative (Literature)

Ames test
Result: negative (IUCLID)

Potassium hydroxide
Skin irritation
Rabbit
Result: Causes burns (IUCLID)

Eye irritation
Rabbit
Result: Causes burns (RTECS)

Germ cell mutagenicity
Ames test
Escherichia coli
Result: negative (IUCLID)

12. Ecological information

Mixture

12.1. Toxicity

There is no information available.

12.2. Persistence and degradability

There is no information available.

12.3. Bioaccumulative potential

There is no information available.

12.4. Soil mobility

There is no information available.

12.5. PBT and vPvB assessment results

PBT/vPvB* assessment not carried out as chemical safety assessment is not required/has not been carried out.

*PBT – Persistent – Bioaccumulative – Toxic

vPvB – Very persistent and very bioaccumulative

12.6. Other adverse effects

Additional ecological information

Biological effects: harmful effect due to pH change. Despite dilution, it still forms caustic mixtures with water.

Additional information about ecology

Discharge into the environment must be avoided.

Components

Calcium hydroxide

Toxicity to fish: LC50 *Gambusia affinis* (mosquitofish): 160 mg/l; 96 h (IUCLID)

Biodegradability: The methods for determining biological degradability are not applicable to inorganic substances.

Not applicable for inorganic substances: The substance does not meet the criteria for PBT or vPvB in accordance with regulation (EC) No. 1907/2006, Annex XIII.

Sodium hydroxide

Toxicity to fish: LC50 *Gambusia affinis* (mosquitofish): 125 mg/l; 96h
Toxicity to daphnia and other aquatic invertebrates: EC50 *Daphnia magna*: 76 mg/l; 24 hours
Toxicity to bacteria: EC50 *Photobacterium phosphoreum*: 22 mg/l; 15 min
Biodegradability: The methods for determining biological degradability are not applicable to inorganic substances.

Potassium hydroxide

Toxicity to fish: LC50 *Gambusia affinis* (mosquitofish): 80 mg/l; 96h
Toxicity to daphnia and other aquatic invertebrates: EC50 *Daphnia magna*: 76 mg/l; 24 hours
Toxicity to bacteria: EC50 *Photobacterium phosphoreum*: 22 mg/l; 15 min
Biodegradability: The methods for determining biological degradability are not applicable to inorganic substances.

13. Treatment and disposal considerations

Waste Treatment Methods: Waste must be disposed of as solid waste in accordance with local, state and federal waste disposal regulations.

Waste Category: EWL (European Waste List) 16 03 3* / 18 01 06*

Legislation relevant to disposal:

- Law 12,305 / 2010 National Solid Waste Policy;
- RDC ANVISA No. 222 / 018 Regulates Good Health Service Waste Management Practices;
- CONAMA Resolution No. 358/2005 Treatment and final disposal of waste from health services;
- The Hazardous Waste (England & Wales) Regulations 2005;
- Waste code number, applicable for Europe - waste code number, applicable for Europe

Storage:

- Avoid mechanical shocks or strong vibrations;
- Temperature range between –20 °C to +50 °C;
- Relative humidity between 10 and 90% (without condensation);
- Atmospheric pressure between 610 to 789 mmHG

Storage class: LGK 10-13 (VCI – concept)

14. Transportation Information

14.1 UN Number

ADR/RID, DOT (US), IMDG, IATA, ANTT: By special provision 62 in the transport regulations (code IMDG/RID/ADR/ADN) it is specified that welded lime is not considered dangerous goods for transport with hydroxide concentrations sodium content of less than 4%, as well as special provision A16 for the IATA regulations.

14.2 UN proper shipping name

ADR/RID: ATRASORB DEFENSE 230 (Soda lime)
DOT (US): ATRASORB DEFENSE 230 Soda lime (Carbon dioxide absorber)
IMDG: ATRASORB DEFENSE 230 Soda lime (Carbon dioxide absorber)
IATA: ATRASORB DEFENSE 230 Soda lime (Carbon dioxide absorber)
ANTT: ATRASORB DEFENSE 230 (Soda lime)

14.3 Hazard classes for transport purposes


ADR/RID, DOT (US), IMDG, IATA, ANTT: exempt by special provisions 62 and A16

14.4 Packing group

ADR/RID, DOT (US), IMDG, IATA, ANTT: exempt by special provisions 62 and A16

14.5 Environmental hazards

ADR/RID: no DOT (US): no IMDG Marine pollutant: no IATA: no

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14.6 Special precautions for the user

Data not available

15. Regulations

15.1 Regulation/legislation specific to the substance or mixture in question health, safety and environment

This Chemical Product Information Sheet has been prepared in accordance with NBR 14725-4/2014 from ABNT (Brazilian Association of Technical Standards)

Other state regulations may apply. Check individual state requirements.

16. Other information

Full text of the H Statements mentioned in sections 2 and 3.

H290: May be corrosive to metals.
H314: Causes severe skin burns and eye damage.
H315: Causes skin irritation.
H318: Causes serious eye damage.
H335: May cause respiratory irritation.

Text of the R-phrases referred to in headings 2 and 3

R35: Causes severe burns.
R37: Irritating to respiratory tract.
R37/38: Irritating to respiratory tract and skin.
R41: Risk of serious eye damage.

Training recommendation

Provide adequate information, instructions and training for operators.

Legend of abbreviations and acronyms

The abbreviations and acronyms used can be consulted at <http://www.wikipedia.org>.

The instructions are based on the current level of our knowledge and serve to characterize the product with regard to the safety measures to be taken. These indications do not imply any guarantee of the properties of the product described.