

# SAFETY DATA SHEET

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## SECTION 1. IDENTIFICATION

**Product Identifier:** (4N) 99.99% Rhodium Nitrate Dihydrate

**Product Code:** RH-NAT-04-C.2HYD

**CAS Number:** 13465-43-5

**Relevant identified uses of the substance:** Scientific research and development

Supplier details:

American Elements  
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Los Angeles, CA 90024  
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Emergency telephone number:  
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## SECTION 2. HAZARDS IDENTIFICATION

GHS03 flame over circle

Ox. Sol. 3 H272 May intensify fire; oxidiser.

GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

C; Corrosive

R34: Causes burns.

O; Oxidising

R8: Contact with combustible material may cause fire.

Information concerning particular hazards for human and environment:

N/A

Other hazards that do not result in classification

No data available

Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS03 GHS05

Signal word: Danger

Hazard statements

H272 May intensify fire; oxidiser.

H314 Causes severe skin burns and eye damage.

Precautionary statements

P220 Keep/Store away from clothing/combustible materials.

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.

P309 IF exposed or if you feel unwell:

P310 Immediately call a POISON CENTER/doctor/...

Results of PBT and vPvB assessment

PBT: N/A

vPvB: N/A

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### **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

CAS# Designation:

13465-43-5 Rhodium(III) nitrate dihydrate

Identification number(s):

EC number: 233-397-6

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### **SECTION 4. FIRST AID MEASURES**

General information

Instantly remove any clothing soiled by the product.

If inhaled:

Supply patient with fresh air. If not breathing, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

Seek immediate medical advice.

In case of skin contact:

Instantly wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

In case of eye contact:

Rinse opened eye for several minutes under running water. Then consult doctor.

If swallowed:

Seek medical treatment

Most important symptoms and effects, both acute and delayed

Causes severe skin burns.

Causes serious eye damage.

Indication of any immediate medical attention and special treatment needed

No data available

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### **SECTION 5. FIREFIGHTING MEASURES**

Extinguishing media

Suitable extinguishing agents

Product is not flammable. Use fire-fighting measures that suit the surrounding fire.

For safety reasons unsuitable extinguishing agents

Halocarbon extinguisher

Special hazards arising from the substance or mixture

This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

If this product is involved in a fire, the following can be released:

Nitrogen oxides (NO<sub>x</sub>)

Metal oxide

Advice for firefighters

Protective equipment:

Wear self-contained breathing apparatus.

Wear full protective suit.

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## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Environmental precautions:

Do not allow material to be released to the environment without official permits.

Methods and materials for containment and cleanup:

Use neutralizing agent.

Dispose of contaminated material as waste according to section 13.

Ensure adequate ventilation.

Prevention of secondary hazards:

Acts as an oxidizing agent on organic materials such as wood, paper and fats

Keep away from combustible material.

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 information on disposal.

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## **SECTION 7. HANDLING AND STORAGE**

Precautions for safe handling

Keep containers tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation/exhaustion at the workplace.

Information about protection against explosions and fires:

Substance/product can reduce the ignition temperature of flammable substances.

This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and containers:

No special requirements.

Information about storage in one common storage facility:

Store away from strong bases.

Store away from flammable substances.

Store away from reducing agents.

Do not store with organic materials.

Store away from metal powders.

Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well-sealed containers.  
Store in a locked cabinet or with access restricted to technical experts or their assistants.  
Specific end use(s)  
No data available

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## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters

Components with critical values that require monitoring at the workplace:

Rhodium metal and compounds (as Rh)

mg/m<sup>3</sup>

ACGIH TLV 0.01; Not classified as a human carcinogen

Belgium TWA 1

Denmark TWA 0.001

Finland TWA 0.001

France VME 1

Korea TLV 0.01

Netherlands MAC-TGG 0.001

Norway TWA 0.1

Switzerland MAK-W 0.1

United Kingdom TWA 0.001; 0.003-STEL

USA PEL 0.001

Additional information: No data

Exposure controls

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures should be adhered to in handling the chemicals.

Keep away from foodstuffs, beverages and food.

Instantly remove any soiled and impregnated garments.

Wash hands during breaks and at the end of the work.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

Breathing equipment:

Use breathing protection with high concentrations.

Protection of hands:

Inspect gloves prior to use.

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.

Material of gloves

Impervious gloves

Eye protection:

Tightly sealed safety glasses.

Full face protection

Body protection:

Protective work clothing.

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## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Information on basic physical and chemical properties

Appearance:

Form: Crystalline

Colour: Yellow-brown

Smell: No data available

Odor threshold: No data available.

pH: N/A

Melting point/Melting range: No data available

Boiling point/Boiling range: No data available

Sublimation temperature / start: No data available

Flash point: N/A

Inflammability (solid, gas)

Contact with combustible material may cause fire.

Ignition temperature: No data available

Decomposition temperature: No data available

Self-inflammability: No data available.

Danger of explosion: No data available.

Critical values for explosion:

Lower: No data available

Upper: No data available

Steam pressure: N/A

Density: No data available

Relative density: No data available.

Vapor density: N/A

Evaporation rate: N/A

Solubility in Water (H<sub>2</sub>O): Soluble

Partition coefficient (n-octanol/water): No data available.

Viscosity:

Dynamic: N/A

Kinematic: N/A

Other information

No data available

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## SECTION 10. STABILITY AND REACTIVITY

Reactivity

May intensify fire; oxidiser.

Chemical stability

Stable under recommended storage conditions.

Thermal decomposition / conditions to be avoided:

No decomposition if used and stored according to specifications.

Possibility of hazardous reactions

Reacts with reducing agents

Reacts with flammable substances

Conditions to avoid

No data available

Incompatible materials:

Bases

Flammable substances

Reducing agents

Organic materials

Metal powders

Hazardous decomposition products:

Nitrogen oxides (NO<sub>x</sub>)  
Metal oxide

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## SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity:

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

LD/LC50 values that are relevant for classification: No data

Skin irritation or corrosion: Causes severe skin burns.

Eye irritation or corrosion: Causes serious eye damage.

Sensitization: Sensitization possible by inhalation.

Germ cell mutagenicity: No effects known.

Carcinogenicity:

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

Reproductive toxicity: No effects known.

Specific target organ system toxicity - repeated exposure: No effects known.

Specific target organ system toxicity - single exposure: No effects known.

Aspiration hazard: No effects known.

Subacute to chronic toxicity: No effects known.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

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## SECTION 12. ECOLOGICAL INFORMATION

Toxicity

Aquatic toxicity:

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Additional ecological information:

Do not allow material to be released to the environment without official permits.

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

Do not allow undiluted product or large quantities to reach groundwater, water courses, or sewage systems.

Avoid transfer into the environment.

Results of PBT and vPvB assessment

PBT: N/A

vPvB: N/A

Other adverse effects

No data available

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## SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Recommendation

Hand over to disposers of hazardous waste.

Must be specially treated under adherence to official regulations.

Consult official regulations for proper disposal.

Uncleaned packagings:

Recommendation:

Disposal must be made according to official regulations.

Recommended cleaning agent:

Water, if necessary with cleaning agent.

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## SECTION 14. TRANSPORT INFORMATION

UN-Number

ADR, IMDG, IATA

UN1477

UN proper shipping name

ADR

1477 NITRATES, INORGANIC, N.O.S. (Rhodium(III) nitrate dihydrate)

IMDG, IATA

NITRATES, INORGANIC, N.O.S. (Rhodium(III) nitrate dihydrate)

Transport hazard class(es)

ADR

Class

5.1 (O2) Oxidising substances.

Label

5.1

IMDG, IATA

Class

5.1 Oxidising substances.

Label

5.1

Packing group

ADR, IMDG, IATA

III

Environmental hazards:

N/A

Special precautions for user

Warning: Oxidising substances.

Kemler Number:

50

Transport in bulk according to Annex II of MARPOL73/78 and the IBC

Code

N/A

Transport/Additional information:

ADR

Excepted quantities (EQ):

E1

Limited quantities (LQ)

5 kg

Transport category

3

Tunnel restriction code

E

UN "Model Regulation":

UN1477, NITRATES, INORGANIC, N.O.S. (Rhodium(III) nitrate dihydrate), 5.1, III

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## SECTION 15. REGULATORY INFORMATION

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

Australian Inventory of Chemical Substances

Substance is not listed.

Standard for the Uniform Scheduling of Drugs and Poisons

Substance is not listed.

National regulations

Information about limitation of use:

Employment restrictions concerning young persons must be observed.

For use only by technically qualified individuals.

Water hazard class:

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

Other regulations, limitations and prohibitive regulations

ELINCS (European List of Notified Chemical Substances)

Substance is not listed.

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.

Substance is not listed.

The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.

Substance is not listed.

Annex XIV of the REACH Regulations (requiring Authorisation for use)

Substance is not listed.

Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

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## 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.