

# SAFETY DATA SHEET

Version: v1

Revision Date: 2025-09-12

Print Date: 2025-09-18

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

### 1.1 Product identifiers

|                |                                           |
|----------------|-------------------------------------------|
| Product name   | : Potassium aquapentachlororuthenate(III) |
| Product Number | : P124009                                 |
| Brand          | : aladdin                                 |
| CAS-No.        | : 14404-33-2                              |

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

|                 |                                                    |
|-----------------|----------------------------------------------------|
| Identified uses | : Laboratory chemicals, Manufacture of substances. |
|-----------------|----------------------------------------------------|

### 1.3 Company

|           |                                                   |
|-----------|---------------------------------------------------|
| Company   | : ALADDIN SCIENTIFIC CORPORATION                  |
| Address   | : 14078 Meridian Parkway,<br>Riverside, CA. 92518 |
| Telephone | : +1 (833) 552-7181                               |
| Fax       | : no data available                               |

### 1.4 Emergency telephone number

|                            |                  |
|----------------------------|------------------|
| CHEMTREC®, Inside the USA  | : 1-800-424-9300 |
| CHEMTREC®, Outside the USA | :                |

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

### 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Warning

Hazard statement(s)

|      |                                  |
|------|----------------------------------|
| H315 | Causes skin irritation           |
| H319 | Causes serious eye irritation    |
| H335 | May cause respiratory irritation |

Precautionary statement(s)

|      |                                                  |
|------|--------------------------------------------------|
| P261 | Avoid breathing dust/fume/gas/mist/vapors/spray. |
| P264 | Wash hands [and ...] thoroughly after handling.  |

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|                |                                                                                                                                  |
|----------------|----------------------------------------------------------------------------------------------------------------------------------|
| P271           | Use only outdoors or in a well-ventilated area.                                                                                  |
| P280           | Wear protective gloves/protective clothing/eye protection/face protection.                                                       |
| P321           | Specific treatment (see ... on this label).                                                                                      |
| P302+P352      | IF ON SKIN: wash with plenty of water.                                                                                           |
| P304+P340      | IF INHALED: Remove person to fresh air and keep comfortable for breathing.                                                       |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing. |
| P362+P364      | Take off contaminated clothing and wash it before reuse.                                                                         |
| P405           | Store locked up.                                                                                                                 |
| P403+P233      | Store in a well-ventilated place. Keep container tightly closed.                                                                 |
| P501           | Dispose of contents/container to an approved waste disposal plant.                                                               |
| P264+P265      | Wash hands [and ...] thoroughly after handling. Do not touch eyes.                                                               |
| P337+P317      | If eye irritation persists: Get medical help.                                                                                    |
| P332+P317      | If skin irritation occurs: Get medical help.                                                                                     |
| P319           | Get medical help if you feel unwell.                                                                                             |

## 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

|                  |                                                       |
|------------------|-------------------------------------------------------|
| Synonyms         | : Dipotassium aquapentachlororuthenate(III)           |
| Formula          | : K <sub>2</sub> RuCl <sub>5</sub> (H <sub>2</sub> O) |
| Molecular weight | : 374.55                                              |
| CAS No.          | : 14404-33-2                                          |
| EC-NO.           | : 238-374-4                                           |

| Component                                      | Classification    | Concentration |
|------------------------------------------------|-------------------|---------------|
| <b>Potassium aquapentachlororuthenate(III)</b> |                   |               |
|                                                | no data available | Ru 26% - 30%  |

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician

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**In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician

**If swallowed**

Wash off with soap and plenty of water. Consult a physician

**4.2 Most important symptoms and effects, both acute and delayed**

no data available

**4.3 Indication of any immediate medical attention and special treatment needed**

no data available

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**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide

**Unsuitable extinguishing media**

no data available

**5.2 Special hazards arising from the substance or mixture**

Hazardous decomposition products formed under fire conditions.- Hydrogen chloride gas, Potassium oxides, Ruthenium oxide

**5.3 Advice for firefighters**

Wear self contained breathing apparatus for fire fighting if necessary.

**5.4 Further information**

no data available

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**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

**6.2 Environmental precautions**

Do not let product enter drains

**6.3 Methods and materials for containment and cleaning up**

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal

**6.4 Reference to other sections**

no data available

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes.Avoid formation of dust and aerosols.Provide appropriate exhaust ventilation at places where dust is formed.Normal measures for preventive fire protection

### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.Keep in a dry place

### 7.3 Specific end use(s)

no data available

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

### 8.2 Exposure controls

#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice.Wash hands before breaks and at the end of workday.

#### Personal protective equipment

##### Eye/face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### Skin protection

Handle with gloves.Gloves must be inspected prior to use.Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product.Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.Wash and dry hands.

##### Body Protection

impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace

##### Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator.For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges.Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

##### Control of environmental exposure

no data available

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|                    |                              |
|--------------------|------------------------------|
| a) Appearance      | form: powder color: deep red |
| b) Odour           | no data available            |
| c) Odour Threshold | no data available            |

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|                                                 |                   |
|-------------------------------------------------|-------------------|
| d) pH                                           | no data available |
| e) Melting point/freezing point                 | no data available |
| f) Initial boiling point and boiling range      | no data available |
| g) Flash point                                  | no data available |
| h) Evaporation rate                             | no data available |
| i) Flammability (solid, gas)                    | no data available |
| j) Upper/lower flammability or explosive limits | no data available |
| k) Vapour pressure                              | no data available |
| l) Vapour density                               | no data available |
| m) Relative density                             | no data available |
| n) Water solubility                             | no data available |
| o) Partition coefficient: n-octanol/water       | no data available |
| p) Auto-ignition temperature                    | no data available |
| q) Decomposition temperature                    | no data available |
| r) Viscosity                                    | no data available |
| s) Explosive properties N                       | no data available |
| t) Oxidizing properties N                       | no data available |

## 9.2 Other safety information

no data available

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

no data available

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

Strong acids, Strong oxidizing agents

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions.- Hydrogen chloride gas, Potassium oxides, Ruthenium oxide

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**

no data available

**Skin corrosion/irritation**

no data available

**Serious eye damage/eye irritation**

no data available

**Respiratory or skin sensitisation**

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC

**Reproductive toxicity**

no data available

**Specific target organ toxicity - single exposure**

no data available

**Specific target organ toxicity - repeated exposure**

no data available

**Aspiration hazard**

Inhalation - May cause respiratory irritation

**Additional Information**

no data available

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## SECTION 12: Ecological information

### 12.1 Toxicity

no data available

### 12.2 Persistence and degradability

no data available

### 12.3 Bioaccumulative potential

no data available

### 12.4 Mobility in soil

no data available

### 12.5 Results of PBT and vPvB assessment

no data available

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### 12.6 Other adverse effects

no data available

## SECTION 13:

### 13.1 Disposal considerations

**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product

## SECTION 14: Transport information

**DOT (US)**

|                                          |                                            |                                             |
|------------------------------------------|--------------------------------------------|---------------------------------------------|
| UN number: no data available             | Packing group: no data available           | Class: no data available                    |
| Proper shipping name: no data available  | Reportable Quantity(RQ): no data available | Poison Inhalation Hazard: no data available |
| Environmental Hazards: no data available |                                            |                                             |

**IMDG**

|                                         |                                  |                           |
|-----------------------------------------|----------------------------------|---------------------------|
| UN number: no data available            | Packing group: no data available | EMS-No: no data available |
| Proper shipping name: no data available |                                  |                           |

**IATA**

|                                         |                                  |                          |
|-----------------------------------------|----------------------------------|--------------------------|
| UN number: no data available            | Packing group: no data available | Class: no data available |
| Proper shipping name: no data available |                                  |                          |

## SECTION 15: Regulatory information

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

## SECTION 16: Other information

|                         |                                                                                                                                                     |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Prepared By</b>      | Regulatory Affairs<br>ALADDIN SCIENTIFIC CORPORATION<br>Email: <a href="mailto:QualityAssurance@aladdinsci.com">QualityAssurance@aladdinsci.com</a> |
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| <b>Print Date</b>       | 18-Sep-2025                                                                                                                                         |
| <b>Revision Summary</b> | SDS sections updated v1                                                                                                                             |

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