

**1. PRODUCT AND COMPANY IDENTIFICATION****1.1 Product identifiers**

Product name : Ammonium hexachloroplatinate(IV)  
Product Number : 204021  
Brand : Aldrich  
Index-No. : 078-008-00-9  
CAS-No. : 16919-58-7

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

Identified uses : Laboratory chemicals, Synthesis of substances

**1.3 Details of the supplier of the safety data sheet**

Company : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA  
Telephone : +1 800-325-5832  
Fax : +1 800-325-5052

**1.4 Emergency telephone number**

Emergency Phone # : +1-703-527-3887 (CHEMTREC)

**2. HAZARDS IDENTIFICATION****2.1 Classification of the substance or mixture****GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Acute toxicity, Oral (Category 3), H301  
Serious eye damage (Category 1), H318  
Respiratory sensitisation (Category 1), H334  
Skin sensitisation (Category 1), H317

For the full text of the H-Statements mentioned in this Section, see Section 16.

**2.2 GHS Label elements, including precautionary statements**

Pictogram



Signal word

Danger

Hazard statement(s)

H301 Toxic if swallowed.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary statement(s)

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P272 Contaminated work clothing should not be allowed out of the workplace.

|                           |                                                                                                                                                                           |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| P280                      | Wear eye protection/ face protection.                                                                                                                                     |
| P280                      | Wear protective gloves.                                                                                                                                                   |
| P285                      | In case of inadequate ventilation wear respiratory protection.                                                                                                            |
| P301 + P310 + P330        | IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.                                                                                                       |
| P302 + P352               | IF ON SKIN: Wash with plenty of soap and water.                                                                                                                           |
| P304 + P341               | IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.                                               |
| P305 + P351 + P338 + P310 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. |
| P333 + P313               | If skin irritation or rash occurs: Get medical advice/ attention.                                                                                                         |
| P342 + P311               | If experiencing respiratory symptoms: Call a POISON CENTER/doctor.                                                                                                        |
| P363                      | Wash contaminated clothing before reuse.                                                                                                                                  |
| P405                      | Store locked up.                                                                                                                                                          |
| P501                      | Dispose of contents/ container to an approved waste disposal plant.                                                                                                       |

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

|                  |                                  |
|------------------|----------------------------------|
| Synonyms         | : Platinum(IV)-ammonium chloride |
| Formula          | : $H_8Cl_6N_2Pt$                 |
| Molecular weight | : 443.87 g/mol                   |
| CAS-No.          | : 16919-58-7                     |
| EC-No.           | : 240-973-0                      |
| Index-No.        | : 078-008-00-9                   |

#### Hazardous components

| Component                               | Classification                                                                      | Concentration |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------|
| <b>Ammonium hexachloroplatinate(IV)</b> | Acute Tox. 3; Eye Dam. 1;<br>Resp. Sens. 1; Skin Sens. 1;<br>H301, H317, H318, H334 | <= 100 %      |

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 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. Take victim immediately to hospital. Consult a physician.

#### In case of eye contact

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

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

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## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media

#### Suitable extinguishing media

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

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

No data available

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### 5.4 Further information

No data available

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## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.  
For personal protection see section 8.

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. 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

For disposal see section 13.

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## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.  
Provide appropriate exhaust ventilation at places where dust is formed.  
For precautions see section 2.2.

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

Keep container tightly closed in a dry and well-ventilated place.  
Storage class (TRGS 510): Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### Components with workplace control parameters

| Component                         | CAS-No.    | Value                                                  | Control parameters         | Basis                                                                            |
|-----------------------------------|------------|--------------------------------------------------------|----------------------------|----------------------------------------------------------------------------------|
| Ammonium hexachloroplatinate(I V) | 16919-58-7 | TWA                                                    | 0.002000 mg/m <sup>3</sup> | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
|                                   |            | TWA                                                    | 0.002000 mg/m <sup>3</sup> | USA. ACGIH Threshold Limit Values (TLV)                                          |
|                                   | Remarks    | Upper Respiratory Tract irritation<br>Asthma<br>varies |                            |                                                                                  |

|  |  |                                                     |                |                                                                                         |
|--|--|-----------------------------------------------------|----------------|-----------------------------------------------------------------------------------------|
|  |  | TWA                                                 | 0.002000 mg/m3 | USA. NIOSH Recommended Exposure Limits                                                  |
|  |  | TWA                                                 | 0.002 mg/m3    | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants        |
|  |  | TWA                                                 | 0.002 mg/m3    | USA. ACGIH Threshold Limit Values (TLV)                                                 |
|  |  | Upper Respiratory Tract irritation<br>Asthma varies |                |                                                                                         |
|  |  | TWA                                                 | 0.002 mg/m3    | USA. NIOSH Recommended Exposure Limits                                                  |
|  |  | PEL                                                 | 0.002 mg/m3    | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |

## 8.2 Exposure controls

### Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

### Personal protective equipment

#### Eye/face protection

Face shield and safety glasses 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 glove's 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.

#### Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

#### Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

#### Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

|                                                 |                                         |
|-------------------------------------------------|-----------------------------------------|
| a) Appearance                                   | Form: solid<br>Colour: dark yellow      |
| b) Odour                                        | No data available                       |
| c) Odour Threshold                              | No data available                       |
| 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                                  | Not applicable                          |
| 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                             | 3.07 g/cm <sup>3</sup> at 25 °C (77 °F) |
| 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                         | No data available                       |
| t) Oxidizing properties                         | No data available                       |

### 9.2 Other safety information

No data available

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## 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 oxidizing agents  
Strong oxidizing agents, Strong acids

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Nitrogen oxides (NO<sub>x</sub>), Hydrogen chloride gas

Other decomposition products - No data available  
In the event of fire: see section 5

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - 195 mg/kg

Inhalation: No data available

Dermal: No data available

No data available

#### Skin corrosion/irritation

No data available

#### Serious eye damage/eye irritation

No data available

#### Respiratory or skin sensitisation

##### Germ cell mutagenicity

No data available

#### Carcinogenicity

IARC: 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.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

#### Reproductive toxicity

No data available

No data available

#### Specific target organ toxicity - single exposure

No data available

#### Specific target organ toxicity - repeated exposure

No data available

#### Aspiration hazard

No data available

#### Additional Information

RTECS: BP5425000

prolonged or repeated exposure can cause:, Asthma, Dermatitis

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## 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

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

## 12.6 Other adverse effects

No data available

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## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

#### Contaminated packaging

Dispose of as unused product.

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## 14. TRANSPORT INFORMATION

### DOT (US)

UN number: 3288      Class: 6.1      Packing group: III  
Proper shipping name: Toxic solid, inorganic, n.o.s. (Ammonium hexachloroplatinate(IV))  
Reportable Quantity (RQ):

Poison Inhalation Hazard: No

### IMDG

UN number: 3288      Class: 6.1      Packing group: III      EMS-No: F-A, S-A  
Proper shipping name: TOXIC SOLID, INORGANIC, N.O.S. (Ammonium hexachloroplatinate(IV))

### IATA

UN number: 3288      Class: 6.1      Packing group: III  
Proper shipping name: Toxic solid, inorganic, n.o.s. (Ammonium hexachloroplatinate(IV))

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## 15. REGULATORY INFORMATION

### SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

### SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### SARA 311/312 Hazards

Acute Health Hazard

### Massachusetts Right To Know Components

|                                  | CAS-No.    | Revision Date |
|----------------------------------|------------|---------------|
| Ammonium hexachloroplatinate(IV) | 16919-58-7 | 1993-04-24    |

### Pennsylvania Right To Know Components

|                                  | CAS-No.    | Revision Date |
|----------------------------------|------------|---------------|
| Ammonium hexachloroplatinate(IV) | 16919-58-7 | 1993-04-24    |

### New Jersey Right To Know Components

|                                  | CAS-No.    | Revision Date |
|----------------------------------|------------|---------------|
| Ammonium hexachloroplatinate(IV) | 16919-58-7 | 1993-04-24    |

### California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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## 16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

|             |                                                                            |
|-------------|----------------------------------------------------------------------------|
| Acute Tox.  | Acute toxicity                                                             |
| Eye Dam.    | Serious eye damage                                                         |
| H301        | Toxic if swallowed.                                                        |
| H317        | May cause an allergic skin reaction.                                       |
| H318        | Causes serious eye damage.                                                 |
| H334        | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| Resp. Sens. | Respiratory sensitisation                                                  |
| Skin Sens.  | Skin sensitisation                                                         |

**HMIS Rating**

|                        |   |
|------------------------|---|
| Health hazard:         | 2 |
| Chronic Health Hazard: | * |
| Flammability:          | 0 |
| Physical Hazard        | 0 |

**NFPA Rating**

|                    |   |
|--------------------|---|
| Health hazard:     | 2 |
| Fire Hazard:       | 0 |
| Reactivity Hazard: | 0 |

**Further information**

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**Preparation Information**

Sigma-Aldrich Corporation  
Product Safety – Americas Region  
1-800-521-8956

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