SAFETY DATA SHEET

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

1.1 Product identifiers

Product name: 4-Nitrophenylacetic acid
Product Number: N20204
Brand: Aldrich
CAS-No.: 104-03-0

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 Inc.
3050 SPRUCE ST
ST. LOUIS MO 63103
UNITED STATES

Telephone: +1 314 771-5765
Fax: +1 800 325-5052

1.4 Emergency telephone

Emergency Phone #: 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Serious eye damage (Category 1), H318
Short-term (acute) aquatic hazard (Category 1), H400
Long-term (chronic) aquatic hazard (Category 1), H410

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)
H318 Causes serious eye damage.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)
P273 Avoid release to the environment.
P280 Wear 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. Immediately call a POISON CENTER/ doctor.
P310
P391 Collect spillage.
P501 Dispose of contents/ container to an approved waste disposal plant.

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

SECTION 3: Composition/information on ingredients

3.1 Substances

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-nitrophenylacetic acid</td>
<td>Eye Dam. 1; Aquatic Acute 1; Aquatic Chronic 1;</td>
<td>&lt;= 100 %</td>
</tr>
<tr>
<td></td>
<td>H318, H400, H410 M-Factor - Aquatic Acute: 1</td>
<td></td>
</tr>
</tbody>
</table>

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

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice
Show this material safety data sheet to the doctor in attendance.

If inhaled
After inhalation: fresh air.

In case of skin contact
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact
After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed
After swallowing: immediately make victim drink water (two glasses at most). 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

### SECTION 5: Firefighting measures

5.1 **Extinguishing media**

- **Suitable extinguishing media**
  - Water
  - Foam
  - Carbon dioxide (CO2)
  - Dry powder

- **Unsuitable extinguishing media**
  - For this substance/mixture no limitations of extinguishing agents are given.

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

- **Carbon oxides**
- **Nitrogen oxides (NOx)**
- **Combustible.**
  - Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 **Advice for firefighters**

- In the event of fire, wear self-contained breathing apparatus.

5.4 **Further information**

- Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

### SECTION 6: Accidental release measures

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

- Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

6.2 **Environmental precautions**

- Do not let product enter drains.

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

- Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 **Reference to other sections**

- For disposal see section 13.

### SECTION 7: Handling and storage

7.1 **Precautions for safe handling**

- For precautions see section 2.2.
7.2 Conditions for safe storage, including any incompatibilities

Storage conditions
Tightly closed. Dry.

Storage class
Storage class (TRGS 510): 11: Combustible Solids

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters
Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls
Change contaminated clothing. Wash hands after working with substance.

Personal protective equipment

Eye/face protection
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

Body Protection
protective clothing

Respiratory protection
required when dusts are generated.
Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Control of environmental exposure
Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance
Form: powder
Color: light yellow

b) Odor
No data available

c) Odor Threshold
No data available

d) pH
No data available

e) Melting point/freezing point
Melting point/range: 150 - 155 °C (302 - 311 °F) - lit.

f) Initial boiling point and boiling range
No data available
g) Flash point (\( \text{No data available} \))
h) Evaporation rate (\( \text{No data available} \))
i) Flammability (solid, gas) (\( \text{No data available} \))
j) Upper/lower flammability or explosive limits (\( \text{No data available} \))
k) Vapor pressure (\( \text{No data available} \))
l) Vapor density (\( \text{No data available} \))
m) Density 1.407 g/cm\(^3\) at 20 °C (68 °F)
    Relative density (\( \text{No data available} \))
n) Water solubility 2.904 g/l at 30 °C (86 °F) - OECD Test Guideline 105 - soluble
o) Partition coefficient: \( n\)-octanol/water \( \text{log Pow: < 0.3 at 30 °C (86 °F)} \)
p) Autoignition temperature (\( \text{No data available} \))
q) Decomposition temperature (\( \text{No data available} \))
r) Viscosity (\( \text{No data available} \))
s) Explosive properties (\( \text{No data available} \))
t) Oxidizing properties (\( \text{No data available} \))

9.2 Other safety information
No data available

SECTION 10: Stability and reactivity

10.1 Reactivity
The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

10.2 Chemical stability
The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions
no information available

10.4 Conditions to avoid
no information available

10.5 Incompatible materials
No data available

10.6 Hazardous decomposition products
In the event of fire: see section 5
SECTION 11: Toxicological information

11.1 Information on toxicological effects

**Acute toxicity**
LD50 Oral - Rat - female - > 2,000 mg/kg
(OECD Test Guideline 423)
Inhalation: No data available
Dermal: No data available
LD50 Intraperitoneal - Mouse - 830 mg/kg

**Skin corrosion/irritation**
Skin - human skin
Result: No skin irritation
(OECD Test Guideline 439)

**Serious eye damage/eye irritation**
Eyes - Rabbit
Result: Risk of serious damage to eyes.
(OECD Test Guideline 405)

**Respiratory or skin sensitization**
- Mouse
Result: Not a skin sensitizer.
(OECD Test Guideline 429)

**Germ cell mutagenicity**
No data available
Test Type: reverse mutation assay
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay)
Result: positive

**Carcinogenicity**
IARC: No ingredient 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 ingredient 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 on OSHA’s list of regulated carcinogens.

**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

11.2 Additional Information

RTECS: AJ1130010
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

12.1 Toxicity
No data available
Toxicity to algae static test EC50 - Pseudokirchneriella subcapitata - 0.32 mg/l - 72 h
(OECD Test Guideline 201)

12.2 Persistence and degradability
Biodegradability aerobic - Exposure time 28 d
Result: 0 % - Not readily biodegradable.
(OECD Test Guideline 301F)

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 Endocrine disrupting properties
No data available

12.7 Other adverse effects
No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Product
Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14: Transport information

DOT (US)
Not dangerous goods

IMDG
UN number: 3077 Class: 9 Packing group: III EMS-No: F-A, S-F
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (4-nitrophenylacetic acid)
Marine pollutant : yes
Marine pollutant : no
IATA

Aldrich - N20204
UN number: 3077    Class: 9    Packing group: III
Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (4-nitrophenylacetic acid)

**Further information**
EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids. Packages smaller than or equal to 5 kg / L, not dangerous goods of Class 9

**SECTION 15: Regulatory information**

**SARA 302 Components**
This material does not contain any components with a section 302 EHS TPQ.

**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**
No components are subject to the Massachusetts Right to Know Act.

**SECTION 16: Other information**

**Further information**
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. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

Copyright 2020 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only.
The branding on the header and/or footer of this document may temporarily not visually match the product purchased as we transition our branding. However, all of the information in the document regarding the product remains unchanged and matches the product ordered. For further information please contact mlsbranding@sial.com.

Version: 6.4    Revision Date: 07/04/2022    Print Date: 08/12/2023