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SAFETY DATA SHEET

Version 5.1 Revision Date 10/14/2016 Print Date 05/18/2018

1. PRODUCT AND COMPANY IDENTIFICATION

| 1.1 | Product identifiers Product name | : | DNP-DL-glutamic acid |
|-----|-------------------------------------------------------------------------------|---|-------------------------------------------------------------|
| | Product Number Brand | : | D9129 Sigma |
| | CAS-No. | : | 1655-48-7 |
| 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

Not a hazardous substance or mixture.

2.2 GHS Label elements, including precautionary statements

Not a hazardous substance or mixture.

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

| Synonyms | : N-(| 2,4-Dinitrophenyl)-DL-glutamic acid |
|------------------|------------------|-------------------------------------|
| Formula | : C ₁ | 1H11N3O8 |
| Molecular weight | : 313 | 3.22 g/mol |
| CAS-No. | : 165 | 55-48-7 |
| EC-No. | : 216 | 6-736-2 |

No components need to be disclosed according to the applicable regulations.

4. FIRST AID MEASURES

4.1 Description of first aid measures

If inhaled

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

In case of skin contact

Wash off with soap and plenty of water.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

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

- **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

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

6. ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions, protective equipment and emergency procedures Avoid dust formation. 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 Sweep up and shovel. Keep in suitable, closed containers for disposal.
- 6.4 Reference to other sections For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Provide appropriate exhaust ventilation at places where dust is formed.Normal measures for preventive fire protection. 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.

Recommended storage temperature -20 °C

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

General industrial hygiene practice.

Personal protective equipment

Eye/face protection

Safety glasses

Skin protection

For prolonged or repeated contact use protective gloves.

Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Do not let product enter drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

| a) | Appearance | Form: solid |
|-----------------------------------------------|----------------------------------------------------|-------------------|
| b) | Odour | No data available |
| c) | Odour Threshold | No data available |
| d) | рН | 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 |
| I) | 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 | No data available |
| t) | Oxidizing properties | No data available |
| Other safety information No data available | | |

9.2

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 No data available

Hazardous decomposition products 10.6

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx) In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Inhalation: No data available

Dermal: No data available

No data available

Skin corrosion/irritation Serious eye damage/eye irritation Respiratory or skin sensitisation Germ cell mutagenicity 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.
- No component of this product present at levels greater than or equal to 0.1% is identified as a ACGIH: carcinogen or potential carcinogen by ACGIH.
- 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

Specific target organ toxicity - repeated exposure

Aspiration hazard

Additional Information RTECS: Not available

12. ECOLOGICAL INFORMATION

12.1 Toxicity

- 12.2 Persistence and degradability
- 12.3 Bioaccumulative potential
- 12.4 Mobility in soil
- **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

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Observe all federal, state, and local environmental regulations.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US) Not dangerous goods

IMDG Not dangerous goods

ΙΑΤΑ

Not dangerous goods

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

No SARA Hazards

Massachusetts Right To Know Components

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

| Pennsylvania Right To Know Components | | |
|----------------------------------------|----------------------|---------------|
| N-(2,4-Dinitrophenyl)-DL-glutamic acid | CAS-No. 1655-48-7 | Revision Date |
| New Jersey Right To Know Components | | Dovision Data |
| N-(2,4-Dinitrophenyl)-DL-glutamic acid | CAS-No. 1655-48-7 | Revision Date |

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.

16. OTHER INFORMATION

HMIS Rating

| - ··· J | |
|------------------------|---|
| Health hazard: | 0 |
| Chronic Health Hazard: | |
| Flammability: | 0 |
| Physical Hazard | 0 |
| NFPA Rating | |
| Health hazard: | 0 |
| Fire Hazard: | 0 |
| Reactivity Hazard: | 0 |

| r no nazaru. | |
|--------------------|--|
| Reactivity Hazard: | |

Further information

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Preparation Information

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

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