Safety Data Sheet
According to 1907/2006/EC, Article 31

Revision: 06/02/2020

1. Identification of the substance/mixture and of the company/undertaking
   - **Product Identifier** - DDSA
   - **Article Number** - 21340, 21341
   - **CAS Number**: 26544-38-7
   - **EC Number**: 247-781-6
   - **Relevant identified uses of the substances or mixture and uses advised against.**
     Laboratory chemicals, Manufacture of substances.
   - **Application of the substance/preparation**: Hardener for epoxy resins.
   - **Details of the supplier of the safety data sheet**
     Ladd Research
     83 Holly Court
     Williston, VT 05495
     sales@laddresearch.com
     Tel: +1-(802) 658-4961
     Emergency Tel: +1-703-741-5500 (Chemtrec)

2. Hazards identification
   - **Classification of the substance or mixture**
   - **Classification according to Regulation (EC) No 1272/2008**

   ![GHS07] Skin Irrit.2 H315 Causes skin irritation.
   Eye Irrit. 2 H319 Causes serious eye irritation.

**Label elements**
**Labelling according to Regulation (EC) No 1272/2008**
The product has been classified and labelled according to the CLP regulation.

**Hazard Pictograms**

![GHS07]

**Signal word**: Warning

**Hazard statements**
H315 Causes skin irritation
H319 Causes serious eye irritation

**Precautionary statements**
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.

P321 Specific treatment (see on this label).
P362 Take off contaminated clothing and wash before reuse.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.

Other hazards

Results of PBT and vPvB assessment
PBT: Not applicable
vPvB: Not applicable

3. Composition/information on ingredients

Chemical characterization: Substances
CAS No. [26544-38-7]
Chemical characterization: Natural product
Synonyms: DDSA, Dodecenylsuccinic anhydride
Formula: C₁₆H₂₆O₃
Molecular Weight: 266.38 g/mol
Identification number(s)
EC number: 247-781-6

4. First aid measures

Description of first aid measures
General information:
Consult a physician. Show this safety data sheet to the doctor in attendance.
After inhalation:
If breathed in, move person into fresh air. If not breathing, give artificial respiration.
Consult a physician.
After skin contact: Immediately wash with water and soap and rinse thoroughly.
Consult a physician.
After eye contact:
Rinse opened eye for 15 minutes under running water. Then consult a doctor.
After swallowing:
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Most important symptoms and effects, both acute and delayed
No further relevant information available.
Indication of any immediate medical attention and special treatment needed
No further relevant information available.

5. Firefighting measures

Extinguishing media
Suitable extinguishing agents:
CO₂, alcohol-resistant foam, dry chemical or water spray.
Special hazards arising from the substance or mixture. Carbon oxides
Advice for firefighters
Protective equipment: Wear self-contained breathing apparatus for firefighting if necessary.

6. Accidental release measures
   Personal precautions, protective equipment and emergency procedures
   Wear protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Keep unprotected persons away.
   Environmental precautions:
   Do not allow product to reach sewage system or any water course.
   Methods and material for containment and cleaning up:
   Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Keep in suitable, closed containers for disposal.
   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 disposal information.

7. Handling and storage
   Handling:
   Precautions for safe handling
   Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Normal measures for preventive fire protection.
   Information about fire and explosion protection: No special measures required.
   Conditions for safe storage, including any incompatibilities
   Store in a cool place. Keep container tightly closed in a dry and well-ventilated place.
   Storage:
   Requirements to be met by storerooms and receptacles: No special requirements.
   Information about storage in one common storage facility: Not required.
   Further information about storage conditions: Keep container tightly sealed.
   Special end use(s): No further relevant information available.

8. Exposure controls/personal protection
   Additional information about design of technical facilities: No further data; see item 7.
   Control parameters
   Ingredients with limit values that require monitoring at the workplace: Not required
   Additional information: The lists valid during the making were used as basis.
   Exposure controls:
   Personal protective equipment:
   General protective and hygienic measures:
   Keep away from foodstuffs, beverages and feed. Avoid contact with eyes and skin. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and the end of workday.
Respiratory protection:
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Protection of hands:
Protective gloves
The glove material has to be impermeable and resistant to the product, the substance, the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

Material of gloves
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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection
Tightly sealed goggles

9. Physical and chemical properties
Information on basic physical and chemical properties
General information
Appearance:
   Form: Viscous fluid
   Color: Light yellow. Clear
Odor: Not determined
Odor threshold: Not determined
pH value: Not determined
Change in condition
   Melting point/Melting range: Undetermined
   Boiling point/Boiling range: 150°C (at 4 hPa)
Flash point: 113°C (closed cup)
Flammability: Not applicable
Ignition temperature:
   Decomposition temperature: Not determined
Self-igniting: Not determined
Danger of explosion: Product does not present an explosion hazard
Explosion limits:
   Lower: Not determined
   Upper: Not determined
Vapor pressure at 20°C: Not determined
Density at 20°C: 1.0 g/cm³
Relative density: Not determined
Vapor density: Not determined
Evaporation rate: Not determined
Solubility in/
  Miscibility with water: Not determined
Partition coefficient: Not determined
Viscosity:
  Dynamic: Not determined
  Kinematic: Not determined
Other information: No further relevant information available

10. **Stability and reactivity**

   Reactivity
   Chemical stability: Stable under recommended storage conditions.
   **Thermal decomposition / conditions to be avoided:**
   No decomposition if used according to specifications.
   **Possibility of hazardous reactions:** No dangerous reactions known.
   **Conditions to avoid:** No further relevant information available.
   **Incompatible materials:** Strong oxidizing agents, amines, bases
   **Hazardous decomposition products:** No dangerous decomposition products known.

11. **Toxicological information**

   Information on toxicological effects
   **Acute toxicity:**
   **Primary irritant effect:**
   on the skin: Irritant to skin and mucous membranes.
   on the eye: Irritating effect.
   **Sensitization:** No sensitizing effects known.
   **Additional toxicological information:**
   To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

12. **Ecological information**

   Toxicity
   **Aquatic toxicity:** No further relevant information available
   **Persistence and degradability:** No further relevant information available
   **Behavior in environmental systems:**
   **Bioaccumulative potential:** No further relevant information available
   **Mobility in soil:** No further relevant information available
   **Ecotoxic effects:**
   **Remark:** Very toxic for fish
   **Additional ecological information:**
13. **Disposal considerations**

**Waste treatment methods**

**Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

**Recommendation:** Disposal must be made according to official regulations.

14. **Transport information**

**UN-Number**

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**UN proper shipping name**

Not dangerous goods

**ADR**

Void

**IMDG**

Void

**IATA**

Void

**Transport hazard class(es)**

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**Class**

Void

**IATA**

**Class**

 Void

**Packing group**

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**Environmental hazards:**

Void

**Marine pollutant:**

No

**Special marking (ADR):**

Void

**Special precautions for user:**

Not applicable

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:**

Not applicable

**Transport/Additional information:**

ADR
15. **Regulatory information**

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

No further relevant information available.

**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16. **Other Information**

This information is based on our present knowledge and should assist the user with the safe handling of this material when properly applied. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**Contact**

sales@laddresearch.com

Tel: +1-802-658-4961

**Abbreviations and acronyms:**

**ADR:** Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the international Carriage of Dangerous Goods by Road)

**IMDG:** International Maritime Code for Dangerous Goods

**IATA:** International Air Transport Association

**GHS:** Globally Harmonized System of Classification and Labelling of Chemicals

**EINECS:** European Inventory of Existing Commercial Chemical Substances

**ELINCS:** European List of Notified Chemical Substances

**CAS:** Chemical Abstracts Service (division of the American Chemical Society)

**VOC:** Volatile Organic Compounds (USA, EU)

**LC50:** Lethal concentration, 50 percent

**LD50:** Lethal dose, 50 percent

**Skin Irrit. 2:** Skin corrosion/irritation. Hazard Category 2

**Eye Irrit. 2:** Serious eye damage/eye irritation, Hazard Category 2