1 Identification

- Product identifier
- Trade name: Lidocaine
- Synonym
  2-(diethylamino)-N-(2,6-dimethylphenyl)-acetamide
  NSC 40030
- Article number: 20081
- CAS Number: 137-58-6
- EC number: 205-302-8
- Application of the substance / the mixture
  This product is for research use - Not for human or veterinary diagnostic or therapeutic use.

Details of the supplier of the safety data sheet

- Manufacturer/Supplier: Cayman Chemical Co.
  1180 E. Ellsworth Rd.
  Ann Arbor, MI 48108
  USA
- Information department: Product safety department
- Emergency telephone number:
  During normal opening times: +1 (734) 971-3335
  US/CANADA: 800-424-9300
  Outside US/CANADA: 703-741-5970

2 Hazard(s) identification

- Classification of the substance or mixture
  - GHS08 Health hazard
  - Specific Target Organ Toxicity - Single Exposure 1 H370 Causes damage to organs.
  - Specific Target Organ Toxicity - Repeated Exposure H372 Causes damage to organs through prolonged or repeated exposure.
  - GHS07
  - Acute Toxicity - Oral 4 H302 Harmful if swallowed.
  - Sensitization - Skin 1 H317 May cause an allergic skin reaction.

*(Contd. on page 2)*
· Label elements
· GHS label elements
  The substance is classified and labeled according to the Globally Harmonized System (GHS).
· Hazard pictograms

GHS07  GHS08

· Signal word  Danger
· Hazard statements
  H302 Harmful if swallowed.
  H317 May cause an allergic skin reaction.
  H370 Causes damage to organs.
  H372 Causes damage to organs through prolonged or repeated exposure.
· Precautionary statements
  P260  Do not breathe dust/fume/gas/mist/vapors/spray.
  P264  Wash thoroughly after handling.
  P270  Do not eat, drink or smoke when using this product.
  P272  Contaminated work clothing must not be allowed out of the workplace.
  P280  Wear protective gloves.
  P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.
  P330  Rinse mouth.
  P302+P352 If on skin: Wash with plenty of water.
  P307+P311 If exposed: Call a POISON CENTER or doctor/physician.
  P314  Get medical advice/attention if you feel unwell.
  P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
  P321  Specific treatment (see on this label).
  P363  Wash contaminated clothing before reuse.
  P405  Store locked up.
  P501  Dispose of contents/container in accordance with local/regional/national/international regulations.
· Classification system:
· NFPA ratings (scale 0 - 4)
  2 0 0
  Health = 2
  Fire = 0
  Reactivity = 0
· HMIS-ratings (scale 0 - 4)
  HEALTH  FI RE  REACTIVITY
  Health = *2
  Fire = 0
  Reactivity = 0
· Other hazards
· Results of PBT and vPvB assessment
  · PBT: Not applicable.
  · vPvB: Not applicable.
Safety Data Sheet
acc. to OSHA HCS

Trade name: Lidocaine

(Contd. from page 2)

3 Composition/information on ingredients

· Chemical characterization: Substances
  · CAS No. Description
    137-58-6 Lidocaine
  · Identification number(s)
    · EC number: 205-302-8

(Contd. on page 4)
7 Handling and storage

· Handling:
  · Precautions for safe handling
    No special precautions are necessary if used correctly.
    Avoid breathing dust/fume/gas/mist/vapours/spray.
    Avoid prolonged or repeated exposure.
    Keep away from sources of ignition.
    Take precautionary measures against static discharge.
  · Information about protection against explosions and fires: No special measures required.

· Conditions for safe storage, including any incompatibilities
  · Storage: Store in accordance with information listed on the product insert.
  · 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: None.

· Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

· Additional information about design of technical systems: No further data; see section 7.

· Control parameters
  · Components with limit values that require monitoring at the workplace: Not required.
  · Additional information: The lists that were valid during the creation were used as basis.

· Exposure controls
  · Personal protective equipment:
    · General protective and hygienic measures:
      Keep away from foodstuffs, beverages and feed.
      Immediately remove all soiled and contaminated clothing.
      Wash hands before breaks and at the end of work.
      Store protective clothing separately.
  · Breathing equipment:
    In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
  · Protection of hands:

  Protective gloves

  The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· 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.
Trade name: Lidocaine

- Penetration time of glove material
  The exact breakthrough 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: Solid
      - Color: Not determined.
    - Odor: Characteristic
    - Structural Formula: C14H22N2O
    - Molecular Weight: 234.3 g/mol
    - Odor threshold: Not determined.
  - pH-value: Not applicable.
  - Change in condition
    - Melting point/Melting range: Undetermined.
    - Boiling point/Boiling range: Undetermined.
  - Flash point: Not applicable.
  - Flammability (solid, gaseous): Product is not flammable.
  - Decomposition temperature: Not determined.
  - Ignition temperature: Not determined.
  - Danger of explosion: Product does not present an explosion hazard.
  - Explosion limits:
    - Lower: Not determined.
    - Upper: Not determined.
  - Vapor pressure: Not applicable.
  - Density: Not determined.
  - Relative density: Not determined.
  - Vapor density: Not applicable.
  - Evaporation rate: Not applicable.
  - Solubility in / Miscibility with Water: Not determined.
  - Partition coefficient (n-octanol/water): Not determined.
  - Viscosity:
    - Dynamic: Not applicable.
    - Kinematic: Not applicable.
Safety Data Sheet  
acc. to OSHA HCS

Trade name: Lidocaine

(Solubility

<table>
<thead>
<tr>
<th>SOLUBILITY</th>
<th>DMF: 30 mg/mL; DMSO: 30 mg/mL; Ethanol: 30 mg/mL; Ethanol:PBS (pH 7.2) (1:8): 0.11 mg/mL</th>
</tr>
</thead>
</table>

Other information
No further relevant information available.

10 Stability and reactivity

- Reactivity: No further relevant information available.
- Chemical stability
- 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
- Hazardous decomposition products: carbon oxides, nitrogen oxides

11 Toxicological information

- RTECS Number: AN7525000
- Information on toxicological effects
- Acute toxicity:

<table>
<thead>
<tr>
<th>LD/LC50 values that are relevant for classification:</th>
</tr>
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<tbody>
<tr>
<td>Oral</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Intraperitoneal LD50: 133 mg/kg (rat)</td>
</tr>
<tr>
<td>Subcutaneous LD50: 335 mg/kg (rat)</td>
</tr>
</tbody>
</table>

- Primary irritant effect:
  - on the skin: No irritant effect.
  - on the eye: No irritating effect.
  - Sensitization: Sensitization possible through skin contact.
- Additional toxicological information:
  - Carcinogenic categories
  - IARC (International Agency for Research on Cancer) Substance is not listed.
  - NTP (National Toxicology Program) Substance is not listed.
  - OSHA-Ca (Occupational Safety & Health Administration) Substance is not listed.

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.
- Additional ecological information:
- General notes:
  Water hazard class 3 (Self-assessment): extremely hazardous for water
  Do not allow product to reach ground water, water course or sewage system, even in small quantities.
  Danger to drinking water if even extremely small quantities leak into the ground.

(Contd. on page 7)
13 Disposal considerations

- **Waste treatment methods**
  - **Recommendation:** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

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

14 Transport information

- **UN-Number**
  - **DOT, IMDG, IATA** not regulated

- **UN proper shipping name**
  - **DOT, IMDG, IATA** not regulated

- **Transport hazard class(es)**
  - **DOT, ADN, IMDG, IATA**
    - **Class** not regulated

- **Packing group**
  - **DOT, IMDG, IATA** not regulated

- **Environmental hazards:** Not applicable.

- **Special precautions for user** Not applicable.

- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

- **UN "Model Regulation"**: not regulated

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - No further relevant information available.

- **Sara**

- **Section 355 (extremely hazardous substances):** Substance is not listed.

- **Section 313 (Specific toxic chemical listings):** Substance is not listed.

- **TSCA (Toxic Substances Control Act):** ACTIVE

- **Hazardous Air Pollutants** Substance is not listed.

- **Proposition 65**

- **Chemicals known to cause cancer:** Substance is not listed.

- **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.

- **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.

- **Chemicals known to cause developmental toxicity:** Substance is not listed.
Trade name: Lidocaine

(Cntl. from page 7)

- Carcinogenic categories
- EPA (Environmental Protection Agency) Substance is not listed.
- TLV (Threshold Limit Value) Substance is not listed.
- NIOSH-Ca (National Institute for Occupational Safety and Health) Substance is not listed.
- Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

All chemicals may pose unknown hazards and should be used with caution. This SDS applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. Cayman Chemical Company assumes no responsibility for incidental or consequential damages, including lost profits, arising from the use of these data. It shall be the user’s responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Cayman Chemical Company assumes no responsibility for the completeness or accuracy of the information contained herein.

- Department issuing SDS: Environment protection department.
- Contact: -
- Date of preparation / last revision 10/09/2023
- Abbreviations and acronyms:
  - IMDG: International Maritime Code for Dangerous Goods
  - DOT: US Department of Transportation
  - IATA: International Air Transport Association
  - EINECS: European Inventory of Existing Commercial Chemical Substances
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - NFPA: National Fire Protection Association (USA)
  - HMIS: Hazardous Materials Identification System (USA)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - NIOSH: National Institute for Occupational Safety
  - OSHA: Occupational Safety & Health
  - TLV: Threshold Limit Value
  - PEL: Permissible Exposure Limit
  - REL: Recommended Exposure Limit
  - Acute Toxicity - Oral 4: Acute toxicity – Category 4
  - Sensitization - Skin 1: Skin sensitisation – Category 1
  - Specific Target Organ Toxicity - Single Exposure 1: Specific target organ toxicity (single exposure) – Category 1
  - Specific Target Organ Toxicity - Repeated Exposure 1: Specific target organ toxicity (repeated exposure) – Category 1

* Data compared to the previous version altered.