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

- **1.1 Product identifier**
  
  **Product name:** ent-3-Methoxymorphinan Hydrochloride
  
  **Part number:** MM0033.10
  
  **CAS Number:** 1087-69-0

- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
  
  No further relevant information available.

- **Application of the substance / the mixture**
  Reference material for laboratory use only

- **Manufacturer/Supplier:**
  
  LGC Limited
  Queens Road
  Teddington
  Middlesex TW11 0LY
  UNITED KINGDOM
  
  Tel : +44 (0) 20 8943 7000
  Fax : +44 (0) 20 8943 2767
  eMail : gb@lgcstandards.com
  Web : www.lgcstandards.com

- **Further information obtainable from:**
  
  Product safety department
  eMail : sds-request@lgcgroup.com

- **1.4 Emergency telephone number:** +44 (0) 20 8943 7000 (Monday - Friday : 8am - 5pm)

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
  
  Classification according to Regulation (EC) No 1272/2008

  - **GHS06 skull and crossbones**
    
    Acute Tox. 3  H301  Toxic if swallowed.

  - **GHS08 health hazard**
    
    Repr. 2  H361  Suspected of damaging fertility or the unborn child.

- **2.2 Label elements**
  
  Labelling according to Regulation (EC) No 1272/2008
  
  The substance is classified and labelled according to the CLP regulation.

- **Hazard pictograms**

  - GHS06
  - GHS08

- **Signal word** Danger

- **Hazard statements**
  
  H301 Toxic if swallowed.
  H361 Suspected of damaging fertility or the unborn child.

- **Precautionary statements**
  
  P280  Wear protective gloves/protective clothing/eye protection/face protection.
  P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
  P321  Specific treatment (see on this label).
  P308+P313 IF exposed or concerned: Get medical advice/attention.
  P405  Store locked up.

(Contd. on page 2)
Product name: ent-3-Methoxymorphinan Hydrochloride

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

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

SECTION 3: Composition/information on ingredients

· 3.1 Chemical characterisation: Substances
  · CAS No. Description
    1087-69-0 ent-3-Methoxymorphinan Hydrochloride
  · Identification number(s)
    None
  · RTECS:
    -
  · Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· 4.1 Description of first aid measures
  · General information:
    Immediately remove any clothing soiled by the product.
    Remove breathing equipment only after contaminated clothing has been completely removed.
    In case of irregular breathing or respiratory arrest provide artificial respiration.
  · After inhalation:
    Supply fresh air or oxygen; call for doctor.
    In case of unconsciousness place patient in recovery position for transport.
  · After skin contact:
    Immediately wash with water and soap and rinse thoroughly.
    If skin irritation continues, consult a doctor.
  · After eye contact:
    Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
  · After swallowing:
    Rinse mouth. Do not induce vomiting.
    Call a doctor immediately.
  · 4.2 Most important symptoms and effects, both acute and delayed
    No further relevant information available.
  · 4.3 Indication of any immediate medical attention and special treatment needed
    No further relevant information available.

SECTION 5: Firefighting measures

· 5.1 Extinguishing media
  · Suitable extinguishing agents:
    CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
  · 5.2 Special hazards arising from the substance or mixture
    Formation of toxic gases is possible during heating or in case of fire.
  · 5.3 Advice for firefighters
    · Protective equipment:
      Mouth respiratory protective device.
      Wear self-contained respiratory protective device.
**SECTION 6: Accidental release measures**

- **6.1 Personal precautions, protective equipment and emergency procedures** Avoid formation of dust.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
  - Dispose of contaminated material as waste according to item 13.
  - Ensure adequate ventilation.
- **6.4 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.

**SECTION 7: Handling and storage**

- **7.1 Precautions for safe handling**
  - Ensure good ventilation/extraction at the workplace.
  - Remove dust thoroughly.
  - Store in cool, dry place in tightly closed receptacles.
  - Open and handle receptacle with care.
- **Information about fire - and explosion protection:** Keep respiratory protective device available.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
  - **Requirements to be met by storerooms and receptacles:**
    - Store in a cool location.
    - Please refer to the manufacturer’s certificate for specific storage and transport temperature conditions.
    - Store only in the original receptacle.
    - Keep container in a well-ventilated place. Keep away from sources of ignition and heat.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

**SECTION 8: Exposure controls/personal protection**

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** Lists used were valid at the time of SDS preparation.
- **8.2 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.
    - Avoid contact with the eyes.
    - Avoid contact with the eyes and skin.
  - **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:**
    - The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
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Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374

Protective gloves

- **Material of gloves**
  - Butyl rubber, BR
  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.

- **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

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **General Information**

  - **Appearance:**
    - **Form:** Solid
    - **Colour:** Off white
    - **Odour:** Odourless
    - **Odour threshold:** Not determined.

  - **pH-value:** Not applicable.

  - **Change in condition**
    - **Melting point/Melting range:** 250-259 °C
    - **Boiling point/Boiling range:** Not determined.

  - **Flash point:** Not applicable.

  - **Flammability (solid, gaseous):** Not determined.

  - **Ignition temperature:**
    - **Decomposition temperature:** Not determined.

  - **Self-igniting:** Not determined.

  - **Danger of explosion:** Not determined.

  - **Explosion limits:**
    - **Lower:** Not determined.
    - **Upper:** Not determined.

  - **Vapour pressure:** Not applicable.

  - **Density:** Not determined.

  - **Relative density:** Not determined.

  - **Vapour density:** Not applicable.
SECTION 10: Stability and reactivity

- **10.1 Reactivity** Stable under normal conditions.
- **10.2 Chemical stability** Stable under normal conditions.
- **Thermal decomposition / conditions to be avoided:**
  Formation of toxic gases is possible during heating or in case of fire.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** Heat.
- **10.5 Incompatible materials:** Strong oxidizing agents.
- **10.6 Hazardous decomposition products:**
  Formation of toxic gases is possible during heating or in case of fire.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
  - **Acute toxicity**
    Toxic if swallowed.
  - **Primary irritant effect:**
    - **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
    - **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
    - **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
  - **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
    Repr. 2
    - **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
    - **Carcinogenicity** Based on available data, the classification criteria are not met.
    - **Reproductive toxicity**
      Suspected of damaging fertility or the unborn child.
    - **STOT-single exposure** Based on available data, the classification criteria are not met.
    - **STOT-repeated exposure** Based on available data, the classification criteria are not met.
    - **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**
  - **Aquatic toxicity** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
  - **General notes:**
    Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
    Do not allow undiluted product to reach ground water, water course or sewage system.
Product name: ent-3-Methoxymorphinan Hydrochloride

12.5 Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.
12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
- Recommendation
  Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- European waste catalogue
  Waste disposal key numbers from EWC have to be assigned depending on origin and processing.
- Uncleaned packaging:
  - Recommendation: Dispose of in accordance with national regulations.

SECTION 14: Transport information

14.1 UN-Number
- ADR, IMDG, IATA UN2811
  2811 TOXIC SOLID, ORGANIC, N.O.S. (ent-3-Methoxymorphinan Hydrochloride)
- IMDG, IATA TOXIC SOLID, ORGANIC, N.O.S. (ent-3-Methoxymorphinan Hydrochloride)

14.3 Transport hazard class(es)
- ADR, IMDG, IATA

- Class 6.1 Toxic substances.
- Label 6.1

14.4 Packing group
- ADR, IMDG, IATA III

14.5 Environmental hazards:
- Marine pollutant: No
- Special precautions for user
  - Danger code (Kemler): 60
  - EMS Number: F-A, S-A
  - Stowage Category A

14.6 Special precautions for user
- Warning: Toxic substances.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
- Not applicable.

- Transport/Additional information:
  - Excepted quantities (EQ): E1
  - Limited quantities (LQ) 5 kg
  - Transport category 2
  - Tunnel restriction code E

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Product name: ent-3-Methoxymorphinan Hydrochloride

(Contd. from page 6)

UN "Model Regulation":
UN 2811 TOXIC SOLID, ORGANIC, N.O.S. (ENT-3-METHOXYMORPHINAN HYDROCHLORIDE), 6.1, III

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- Philippines Inventory of Chemicals and Chemical Substances Substance is not listed.
- Australian Inventory of Chemical Substances Substance is not listed.
- Standard for the Uniform Scheduling of Medicines and Poisons Substance is not listed.
- Directive 2012/18/EU
  - Qualifying quantity (tonnes) for the application of lower-tier requirements 50 t
  - Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t
- 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

The information in this safety data sheet (SDS) has been prepared with due care and is true and accurate to the best of our knowledge. The user must determine the suitability of the information for its particular purpose, ensure compliance with existing laws and regulations, and be aware that other or additional safety or performance considerations may arise when using, handling and/or storing the material. The information in this SDS does not purport to be all inclusive or a guarantee as to the properties of the material supplied, and should be used only as a guide. LGC makes no warranties or representations as to the accuracy and completeness of the information contained herein, shall not be held responsible for the suitability of this information for the user’s intended purposes or the consequences of such use, and shall not be liable for any damage or loss, howsoever arising, direct or otherwise.

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 Harmonised System of Classification and Labelling of Chemicals
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Acute Tox. 3: Acute toxicity – Category 3
- Repr. 2: Reproductive toxicity – Category 2

Sources
- Data compared to the previous version altered. All sections have been updated.