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

- 1.1 Product identifier
- Product name: (+)-11-nor-delta9-THC-9-carboxylic acid glucuronide (0.1 mg/ml) in Methanol

- Part number: CERT-038

- 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

- 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

  GHS02 flame
  Flam. Liq. 2 H225 Highly flammable liquid and vapour.

  GHS06 skull and crossbones
  Acute Tox. 3 H301 Toxic if swallowed.
  Acute Tox. 3 H311 Toxic in contact with skin.
  Acute Tox. 3 H331 Toxic if inhaled.

  GHS08 health hazard
  STOT SE 1 H370 Causes damage to organs.

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

- Hazard pictograms

  GHS02
  GHS06
  GHS08

- Signal word Danger

- Hazard-determining components of labelling:
  Methanol
Safety data sheet
according to 1907/2006/EC, Article 31

Product name: (+)-11-nor-delta9-THC-9-carboxylic acid glucuronide (0.1 mg/ml) in Methanol

Hazard statements
H225 Highly flammable liquid and vapour.
H301+H311+H331 Toxic if swallowed, in contact with skin or if inhaled.
H370 Causes damage to organs.

Precautionary statements
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P405 Store locked up.
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

3.2 Chemical characterisation: Mixtures
Description: Mixture: consisting of the following components.

Dangerous components:
CAS: 67-56-1 Methanol
EINECS: 200-659-6
RTECS: PC1400000
Flam. Liq. 2, H225; Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H370; STOT SE 1, H370
> 99%

CAS: 1362113-32-3 (+)-11-nor-delta9-THC-9-carboxylic acid glucuronide
RTECS: -
Repr. 2, H361; Acute Tox. 4, H302; Acute Tox. 4, H352
<0.1%

Additional information: For the wording of the listed risk 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.

After eye contact:
Rinse opened eye for several minutes under running water. Then 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, sand, extinguishing powder. Do not use water.
· For safety reasons unsuitable extinguishing agents: Water

· 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
Wear protective equipment. Keep unprotected persons away.
· 6.2 Environmental precautions:
Dilate with plenty of water.
Do not allow to enter sewers/surface or ground water.
· 6.3 Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents

· 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.
Store in cool, dry place in tightly closed receptacles.
Open and handle receptacle with care.
Prevent formation of aerosols.
· Information about fire - and explosion protection:
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
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.
  Store in cool, dry conditions in well sealed receptacles.

(Contd. from page 2)
Product name: (+)-11-nor-delta9-THC-9-carboxylic acid glucuronide (0.1 mg/ml) in Methanol

· 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:
  67-56-1 Methanol

<table>
<thead>
<tr>
<th>Material</th>
<th>Short-term limit</th>
<th>Long-term limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methanol</td>
<td>333 mg/m³, 250 ppm</td>
<td>266 mg/m³, 200 ppm</td>
</tr>
</tbody>
</table>

· 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 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.
  Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149.
  Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

· Protection of hands:
  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
  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

· 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

- General Information
  - Appearance: Liquid
  - Colour: Colourless
  - Odour: Alcohol-like
  - Odour threshold: Not determined.
  - pH-value: Not determined.

- Change in condition
  - Melting point/Melting range: -98 °C
  - Boiling point/Boiling range: 65 °C

- Flash point: 12 °C

- Flammability (solid, gaseous): Not determined.

- Ignition temperature:
  - Decomposition temperature: Not determined.
  - Self-igniting: Product is not self-igniting.
  - Danger of explosion: Product is not explosive. However, formation of explosive air/vapour mixtures is possible.

- Explosion limits:
  - Lower: 6 Vol %
  - Upper: 50 Vol %

- Vapour pressure: Not determined.

- Density at 20 °C: 0.8 g/cm³
- Relative density: Not determined.
- Vapour density: Not determined.
- Evaporation rate: Not determined.

- Solubility in / Miscibility with water: Fully miscible.

- Partition coefficient (n-octanol/water): Not determined.

- Viscosity:
  - Dynamic: Not determined.
  - Kinematic: Not determined.

- 9.2 Other information: No further relevant information available.

SECTION 10: Stability and reactivity

- Reactivity: Stable under normal conditions.
- 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.
- Possibility of hazardous reactions: No dangerous reactions known.
- Conditions to avoid:
  - Sources of ignition
  - Heat.

(Contd. on page 6)
Product name: (+)-11-nor-delta9-THC-9-carboxylic acid glucuronide (0.1 mg/ml) in Methanol

- 10.5 Incompatible materials:
  Strong oxidizing agents.
  Strong acids.
  Reducing agents.
  Alkali metals.
- 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, in contact with skin or if inhaled.
  - LD/LC50 values relevant for classification:

<table>
<thead>
<tr>
<th>67-56-1 Methanol</th>
<th>Oral LD50</th>
<th>5628 mg/kg (rat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermal LD50</td>
<td>15800 mg/kg (rabbit)</td>
<td></td>
</tr>
<tr>
<td>Inhalative LC50/4 h</td>
<td>83.9 mg/l (rat)</td>
<td></td>
</tr>
</tbody>
</table>

- 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 (carcinogenicity, mutagenicity and toxicity for reproduction)
  - 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 Based on available data, the classification criteria are not met.
  - STOT-single exposure
    Causes damage to organs.
  - 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:

| 67-56-1 Methanol | LC50/96 h | 24,000 mg/l (fish) |

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

(Contd. on page 7)
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.
    - Recommended cleansing agents: Water, if necessary together with cleansing agents.

SECTION 14: Transport information

- 14.1 UN-Number
  - ADR, IMDG, IATA
    UN1230
  - ADR
    1230 METHANOL, mixture
  - IMDG, IATA
    METHANOL, mixture

- 14.3 Transport hazard class(es)
  - ADR, IMDG, IATA
    - Class
      3 Flammable liquids.
    - Label
      3+6.1

- 14.4 Packing group
  - ADR, IMDG, IATA
    II

- 14.5 Environmental hazards:
  - Marine pollutant:
    No

- 14.6 Special precautions for user
  - Danger code (Kemler):
    Warning: Flammable liquids.
  - EMS Number:
    F-E-S-D

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

- Transport/Additional information:

  - ADR
    - Excepted quantities (EQ):
      E2
    - Limited quantities (LQ):
      1L
    - Transport category:
      2
    - Tunnel restriction code:
      D/E
  - UN "Model Regulation":
    UN1230, METHANOL, mixture, 3 (6.1), II
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**
    - 67-56-1 Methanol

  - **Australian Inventory of Chemical Substances**
    - None of the ingredients is listed.

  - **Standard for the Uniform Scheduling of Medicines and Poisons**
    - 67-56-1 Methanol
      - S5, S6

  - **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

  - **National regulations:**
    - Other regulations, limitations and prohibitive regulations
      - The substance is considered a controlled drug in some countries and needs to be treated according to the applicable regulations.

- 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.

- **Relevant phrases**
  - H225 Highly flammable liquid and vapour.
  - H301 Toxic if swallowed.
  - H302 Harmful if swallowed.
  - H311 Toxic in contact with skin.
  - H331 Toxic if inhaled.
  - H332 Harmful if inhaled.
  - H361 Suspected of damaging fertility or the unborn child.
  - H370 Causes damage to organs.

- **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
  - 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)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - Flam. Liq. 2: Flammable liquids, Hazard Category 2
  - Acute Tox. 3: Acute toxicity, Hazard Category 3
  - Acute Tox. 4: Acute toxicity, Hazard Category 4
Product name: (+)-11-nor-delta9-THC-9-carboxylic acid glucuronide (0.1 mg/ml) in Methanol

Repr. 2: Reproductive toxicity, Hazard Category 2
STOT SE 1: Specific target organ toxicity - Single exposure, Hazard Category 1

Sources