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according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Code: 15673

Product Name: Cannabidiolic Acid (exempt preparation)

Synonyms: 2,4-dihydroxy-3-[(1R,6R)-3-methyl-6-(1-methylethenyl)-2-cyclohexen-1-yl]-6-pentyl-benzoic acid;

CBDA; ß-Resorcylic Acid;

1.2 Relevant identified uses of the substance or mixture and uses advised against:

Relevant identified uses: For research use only, not for human or veterinary use.

1.3 Details of the Supplier of the Safety Data Sheet:

Company Name: Cayman Chemical Company

1180 E. Ellsworth Rd. Ann Arbor, MI 48108

Web site address: www.caymanchem.com

Information: Cayman Chemical Company +1 (734)971-3335

1.4 Emergency telephone number:

Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300

CHEMTREC Outside USA and Canada: +1 (703)527-3887

Section 2. Hazards Identification

2.1 Classification of the Substance or Mixture:

2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]:

Flammable Liquids, Category 2
Acute Toxicity: Oral, Category 3
Acute Toxicity: Skin, Category 3
Acute Toxicity: Inhalation, Category 3

Target Organ Systemic Toxicity (single exposure), Category 1

2.1.2 Classification according to Directive 1999/45/EC:

F: Highly Flammable

T: Toxic

Risk Phrases: R11, R39/23/24/25

For full text of R- phrases: see SECTION 15.

2.2 Label Elements:

2.2.1 Labeling according to Regulation (EC) No 1272/2008 [CLP]:







GHS Signal Word: Danger

GHS Hazard Phrases:

H225: Highly flammable liquid and vapor

H301: Toxic if swallowed.

H311: Toxic in contact with skin.

H331: Toxic if inhaled.

H370: Causes damage to organs {eyes}





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GHS Precaution Phrases:

P210: Keep away from {heat/sparks/open flames/hot surfaces}. - No smoking.

P280: Wear protective gloves/clothing and eye/face protection as specified by the manufacturer/supplier or the competent authority

P264: Wash hands thoroughly after handling.

P260: Do not breathe dust/fume/gas/mist/vapours/spray.

GHS Response Phrases:

P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

P302+352: IF ON SKIN: Wash with plenty of soap and water.

P312: Call a POISON CENTER or doctor/physician if you feel unwell.

P363: Wash contaminated clothing before reuse.

P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P330: Rinse mouth.

P361: Remove/Take off immediately all contaminated clothing.

P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P307+311: IF exposed: Call a POISON CENTER or doctor/physician.

GHS Storage and Disposal Phrases:

Please refer to Section 7 for Storage and Section 13 for Disposal information.

2.2.2 Labeling according to Directive 1999/45/EC:





2.3 Adverse Human Health Cannot be made nonpoisonous.

Effects and Symptoms: Harmful vapors.

Material may be irritating to the mucous membranes and upper respiratory tract.

May be fatal or cause blindness if swallowed.

May cause eye, skin, or respiratory system irritation.

Toxic if swallowed, inhaled, or absorbed through the skin.

Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if

swallowed.

To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Section 3. Composition/Information on Ingredients

| CAS#/ RTECS# | Hazardous Components (Chemical Name)/ REACH Registration No. | Concentration | EC No./ EC Index No. | Risk Phrases/ GHS Classification |
|----------------------|--|---------------|---------------------------|---|
| 1244-58-2 NA | Cannabidiolic Acid | 0.1 % | NA NA | No phrases apply. No data available. |
| 67-56-1 PC1400000 | Methanol | 99.9 % | 200-659-6 603-001-00-X | F; T; R11-23/24/25-39/23/24/25 Flam. Liq. 2: H225 Acute Tox.(O) 3: H301 Acute Tox.(D) 3: H311 Acute Tox.(I) 3: H331 TOST (SE) 1: H370 |

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SAFETY DATA SHEETCannabidiolic Acid (exempt preparation)

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Section 4. First Aid Measures

4.1 Description of First Aid No data available.

Measures:

In Case of Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel.

Get immediate medical attention.

In Case of Skin Contact: Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated

clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

In Case of Eye Contact: Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined

and tested by medical personnel.

In Case of Ingestion: Wash out mouth with water provided person is conscious. Never give anything by mouth to an

unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by

medical personnel.

4.2 Important Symptoms and Overexposure may cause: confusion, dermatitis, headache, drowsiness, dizziness, gastrointestinal

Effects, Both Acute and

disturbance, optic nerve damage (blindness), nausea, unconsciousness, vomiting, visual

Delayed: disturbance, weakness.

May cause convulsions.

Once methanol is absorbed into the body, it is very slowly eliminated.

Section 5. Fire Fighting Measures

5.1 Suitable Extinguishing Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.

Media: Use water spray to cool fire-exposed containers.

Unsuitable Extinguishing A solid water stream may be inefficient.

Media

5.2 Flammable Properties andCan release vapors that form explosive mixtures at temperatures at or above the flashpoint.

Hazards: Container explosion may occur under fire conditions.

Emits toxic fumes under fire conditions.

Sensitive to static discharge.

Vapors can travel to a source of ignition and flash back.

Flash Pt: 11.00 C Method Used: Closed Cup

Explosive Limits: LEL: 6.0% at 25.0 C UEL: 36.0% at 25.0 C

Autoignition Pt: 385.00 C

5.3 Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or

equivalent), and full protective gear to prevent contact with skin and eyes.

Note: Flammable as diluted in methanol.

Section 6. Accidental Release Measures

6.1 Protective Precautions, Avoid breathing vapors and provide adequate ventilation.

Protective Equipment and As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator,

Emergency Procedures: and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).

6.2 Environmental Take steps to avoid release into the environment, if safe to do so.

Precautions:

6.3 Methods and Material For Contain spill and collect, as appropriate.

Containment and Cleaning Transfer to a chemical waste container for disposal in accordance with local regulations.

Up:





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Section 7. Handling and Storage

7.1 Precautions To Be Taken Avoid breathing dust/fume/gas/mist/vapours/spray.

in Handling: Avoid prolonged or repeated exposure.

Keep away from sources of ignition.

Take precautionary measures against static discharge.

7.2 Precautions To Be Taken Keep away from heat, sparks, and flame.

in Storing: Keep container tightly closed.

Store in accordance with information listed on the product insert.

Section 8. Exposure Controls/Personal Protection

8.1 Exposure Parameters:

| CAS# | Partial Chemical Name | Britain EH40 | France VL | Europe |
|-----------|-----------------------|---|--|----------------|
| 1244-58-2 | Cannabidiolic Acid | No data. | No data. | No data. |
| 67-56-1 | Methanol | TWA: 266 mg/m3 (200 ppm) STEL: 333 mg/m3 (250 ppm) | TWA: 260 mg/m3 (200 ppm) STEL: 1300 mg/m3 (1000 ppm) | TWA: 260 mg/m3 |
| CAS# | Partial Chemical Name | OSHA TWA | ACGIH TWA | Other Limits |
| 1244-58-2 | Cannabidiolic Acid | No data. | No data. | No data. |
| 67-56-1 | Methanol | PEL: 200 ppm | TLV: 200 ppm STEL: 250 ppm | No data. |

8.2 Exposure Controls:

8.2.1 Engineering Controls Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne

(Ventilation etc.): levels below recommended exposure limits.

8.2.2 Personal protection equipment:

Eye Protection: Safety glasses

Protective Gloves: Compatible chemical-resistant gloves

Other Protective Clothing: Lab coat

Respiratory Equipment NIOSH approved respirator, as conditions warrant.

(Specify Type):

Work/Hygienic/Maintenan Do not take internally.

ce Practices: Facilities storing or utilizing this material should be equipped with an eyewash and a safety shower.

Wash thoroughly after handling.

No data available.



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| Section 9. Physical and Chemical Propertie | Section 9. | Physica | d and (| Chemical | Properties |
|--|------------|---------|---------|----------|-------------------|
|--|------------|---------|---------|----------|-------------------|

9.1 Information on Basic Physical and Chemical Properties

Physical States: [] Gas [X] Liquid [] Solid

Appearance and Odor:SolutionMelting Point:No data.Boiling Point:No data.

Flash Pt: 11.00 C Method Used: Closed Cup

Evaporation Rate: No data.

Explosive Limits: LEL: 6.0% at 25.0 C UEL: 36.0% at 25.0 C

Vapor Pressure (vs. Air or mm 96 MM_HG at 20.0 C

Hg):

Vapor Density (vs. Air = 1): No data.

Specific Gravity (Water = 1): No data.

Solubility in Water: No data.

Autoignition Pt: 385.00 C

9.2 Other Information

Percent Volatile: No data.

Molecular Formula & Weight: C22H30O4 358.5

Section 10. Stability and Reactivity

10.1 Reactivity: No data available.

10.2 Stability: Unstable [] Stable [X]

10.3 Stability Note(s): Stable if stored in accordance with information listed on the product insert.

Polymerization: Will occur [] Will not occur [X]

10.4 Conditions To Avoid: heat, flames and sparks

10.5 Incompatibility - Materials acids

To Avoid: acid anhydrides

acid chlorides alkali metals oxidizing agents reducing agents

10.6 Hazardous carbon dioxide

Decomposition Or

carbon monoxide

Byproducts:





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Section 11. Toxicological Information

11.1 Information on The toxicological effects of this product have not been thoroughly studied.

Toxicological Effects: Methanol - Toxicity Data: Oral LD50 (rat): 5,600 mg/kg; Oral LD50 (rabbit): 14,200 mg/kg;

Inhalation LC50 (rat): 64,000 ppm (4h); Inhalation LC50 (mouse): 61,100 ppm (134 m); Skin LD50

(rabbit): 15,800 mg/kg; Oral LDLO (human): 143 mg/kg;

Methanol - Irritation Data: Skin (rabbit): 20 mg (24h) moderate; Eyes (rabbit): 40 mg moderate;

Eyes (rabbit): 100 mg (24h) moderate;

Chronic Toxicological Methanol - Investigated as a mutagen and reproductive effector.

Effects: Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here.

See actual entry in RTECS for complete information.

Methanol RTECS Number: PC1400000

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

Section 12. Ecological Information

12.1 Toxicity: Avoid release into the environment.

Runoff from fire control or dilution water may cause pollution.

12.2 Persistence and No data available.

Degradability:

12.3 Bioaccumulative No data available.

Potential:

12.4 Mobility in Soil: No data available.

12.5 Results of PBT and vPvB No data available.

assessment:

Section 13. Disposal Considerations

13.1 Waste Disposal Method: Dispose in accordance with local, state, and federal regulations.

Section 14. Transport Information

14.1 LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Methanol Solution

DOT Hazard Class: 3 (6.1) FLAMMABLE LIQUID, POISON
UN/NA Number: 1230 Packing Group:





14.1 LAND TRANSPORT (European ADR/RID):

ADR/RID Shipping Name: Methanol Solution

UN Number: 1230 Packing Group: II

Hazard Class: 3 (6.1) - FLAMMABLE LIQUID,

POISON

14.3 AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Methanol Solution

UN Number:1230Packing Group:IIHazard Class:3 (6.1) - FLAMMABLE LIQUID,IATA Classification:3, 6.1

POISON

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Additional Transport Transport

Transport in accordance with local, state, and federal regulations.

Information: When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of

E1, E2, E4, or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10. Therefore packaging does not have to be labeled as Dangerous Goods/Excepted Quantity.

Section 15. Regulatory Information

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

| CAS# | Hazardous Components (Chemical Name) | S. 302 (EHS) | S. 304 RQ | S. 313 (TRI) |
|-----------|--------------------------------------|--------------|-------------|--------------|
| 1244-58-2 | Cannabidiolic Acid | No | No | No |
| 67-56-1 | Methanol | No | Yes 5000 LB | Yes |

| CAS# | Hazardous Components (Chemical Name) | Other US EPA or State Lists |
|-----------|--------------------------------------|---|
| 1244-58-2 | Cannabidiolic Acid | CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No |
| 67-56-1 | Methanol | CAA HAP,ODC: HAP; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: Yes |

European Community Hazard Symbol codes:





European Community Risk and Safety Phrases:

R11 Highly flammable.

R39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if

swallowed.

S7 Keep container tightly closed.

S16 Keep away from sources of ignition. S24/25 Avoid contact with skin and eyes.

S33 Take precautionary measures against static discharges.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label whenever

possible.)

Regulatory Information This SDS was prepared in accordance with Regulation (EC) No.1272/2008 and European Directive

Statement: 67/548/EEC as amended.

Section 16. Other Information

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Additional Information About No data available.

This Product:

Company Policy or Disclaimer: DISCLAIMER: This information is believed to be accurate and represents the best information

currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for

their particular purposes.