

# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/14/2020

Revision date 07/14/2020

## 1 Identification

- **Product identifier**
- **Trade name: (±)-Cannabichromevarin (CRM)**
- **Synonym** 2-methyl-2-(4-methyl-3-penten-1-yl)-7-propyl-2H-1-benzopyran-5-ol; CBC C-3; CBCV
- **Article number:** 21974, 019194
- **Application of the substance** For research use only - not for human or veterinary 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**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS08 Health hazard

STOT SE 1 H370 Causes damage to the central nervous system and the visual organs.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS02 GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

Methanol

- **Hazard statements**

Highly flammable liquid and vapor.

Causes damage to the central nervous system and the visual organs.

(Contd. on page 2)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/14/2020

Revision date 07/14/2020

Trade name: (±)-Cannabichromevarin (CRM)

(Contd. from page 1)

## Precautionary statements

- Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- Keep container tightly closed.
- Ground/bond container and receiving equipment.
- Use explosion-proof electrical/ventilating/lighting/equipment.
- Use only non-sparking tools.
- Take precautionary measures against static discharge.
- Do not breathe dust/fume/gas/mist/vapors/spray.
- Wash thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Wear protective gloves/protective clothing/eye protection/face protection.
- If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- IF exposed: Call a POISON CENTER or doctor/physician.
- Specific treatment (see on this label).
- In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.
- Store in a well-ventilated place. Keep cool.
- Store locked up.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

## Classification system:

### NFPA ratings (scale 0 - 4)



Health = 0  
Fire = 3  
Reactivity = 0

### HMIS-ratings (scale 0 - 4)



HEALTH \*0 Health = \*0  
FIRE 3 Fire = 3  
REACTIVITY 0 Reactivity = 0

### Other hazards

### Results of PBT and vPvB assessment

- PBT: Not applicable.
- vPvB: Not applicable.

## 3 Composition/information on ingredients

### Chemical characterization: Mixtures

- Description: Mixture of the substances listed below with nonhazardous additions.

### Dangerous components:

|                                  |          |       |
|----------------------------------|----------|-------|
| CAS: 67-56-1<br>RTECS: PC1400000 | Methanol | 99.9% |
|----------------------------------|----------|-------|

### Other ingredients

|                                     |                        |      |
|-------------------------------------|------------------------|------|
| CAS: 41408-19-9<br>RTECS: DJ2933000 | (±)-Cannabichromevarin | 0.1% |
|-------------------------------------|------------------------|------|

## 4 First-aid measures

### Description of first aid measures

- General information: Immediately remove any clothing soiled by the product.
- After inhalation: Supply fresh air; consult doctor in case of complaints.

(Contd. on page 3)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 07/14/2020

Revision date 07/14/2020

**Trade name: (±)-Cannabichromevarin (CRM)**

(Contd. from page 2)

- **After skin contact:** Immediately rinse with water.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**  
May cause anemia, cough, CNS depression, drowsiness, headache, heart damage, lassitude (weakness, exhaustion), liver damage, narcosis, reproductive effects, teratogenic effects.  
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**  
67-56-1 During heating or in case of fire poisonous gases are produced.  
Can release vapors that form explosive mixtures at temperatures at or above the flashpoint.  
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.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Mount respiratory protective device.  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **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.
- **Protective Action Criteria for Chemicals**

- **PAC-1:**

|         |          |         |
|---------|----------|---------|
| 67-56-1 | Methanol | 530 ppm |
|---------|----------|---------|

- **PAC-2:**

|         |          |           |
|---------|----------|-----------|
| 67-56-1 | Methanol | 2,100 ppm |
|---------|----------|-----------|

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/14/2020

Revision date 07/14/2020

Trade name: (±)-Cannabichromevarin (CRM)

(Contd. from page 3)

· **PAC-3:**

67-56-1 Methanol

7200\* ppm

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.  
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**  
Keep away from heat, sparks and flame.  
Keep container tightly closed.  
Store in accordance with information listed on the product insert.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep receptacle tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.
- **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 item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:****67-56-1 Methanol**

|     |                                                                                                                    |
|-----|--------------------------------------------------------------------------------------------------------------------|
| PEL | Long-term value: 260 mg/m <sup>3</sup> , 200 ppm                                                                   |
| REL | Short-term value: 325 mg/m <sup>3</sup> , 250 ppm<br>Long-term value: 260 mg/m <sup>3</sup> , 200 ppm<br>Skin      |
| TLV | Short-term value: 328 mg/m <sup>3</sup> , 250 ppm<br>Long-term value: 262 mg/m <sup>3</sup> , 200 ppm<br>Skin; BEI |

· **Ingredients with biological limit values:****67-56-1 Methanol**

|     |                                                                                                 |
|-----|-------------------------------------------------------------------------------------------------|
| BEI | 15 mg/L<br>Medium: urine<br>Time: end of shift<br>Parameter: Methanol (background, nonspecific) |
|-----|-------------------------------------------------------------------------------------------------|

- **Additional information:** The lists that were valid during the creation were used as basis.

(Contd. on page 5)

-us

# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/14/2020

Revision date 07/14/2020

Trade name: (±)-Cannabichromevarin (CRM)

(Contd. from page 4)

- **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.
- **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. 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:** A solution in methanol
  - **Color:** Colorless
- **Odor:** Alcohol-like
- **Structural Formula** C<sub>19</sub>H<sub>26</sub>O<sub>2</sub>
- **Molecular Weight** 286.4
- **Odor threshold:** Not determined.
- **Formulation** A 1 mg/ml solution in methanol

- **pH-value:** Not determined.

- **Change in condition**
  - **Melting point/Melting range:** -98 °C (-144.4 °F)
  - **Boiling point/Boiling range:** 64.7 °C (148.5 °F)

(Contd. on page 6)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/14/2020

Revision date 07/14/2020

Trade name: (±)-Cannabichromevarin (CRM)

(Contd. from page 5)

|                                                   |                                                                                            |
|---------------------------------------------------|--------------------------------------------------------------------------------------------|
| · <b>Flash point:</b>                             | 11 °C (51.8 °F)                                                                            |
| · <b>Flammability (solid, gaseous):</b>           | Not applicable.                                                                            |
| · <b>Ignition temperature:</b>                    | 455 °C (851 °F)                                                                            |
| · <b>Decomposition temperature:</b>               | Not determined.                                                                            |
| · <b>Auto igniting:</b>                           | Product is not selfigniting.                                                               |
| · <b>Danger of explosion:</b>                     | Product is not explosive. However, formation of explosive air/vapor mixtures are possible. |
| · <b>Explosion limits:</b>                        |                                                                                            |
| <b>Lower:</b>                                     | 5.5 Vol %                                                                                  |
| <b>Upper:</b>                                     | 44 Vol %                                                                                   |
| · <b>Vapor pressure at 20 °C (68 °F):</b>         | 128 hPa (96 mm Hg)                                                                         |
| · <b>Density at 20 °C (68 °F):</b>                | 0.79 g/cm <sup>3</sup> (6.59255 lbs/gal)                                                   |
| · <b>Relative density</b>                         | Not determined.                                                                            |
| · <b>Vapor density</b>                            | Not determined.                                                                            |
| · <b>Evaporation rate</b>                         | Not determined.                                                                            |
| · <b>Solubility in / Miscibility with Water:</b>  | Fully miscible.                                                                            |
| · <b>Partition coefficient (n-octanol/water):</b> | Not determined.                                                                            |
| · <b>Viscosity:</b>                               |                                                                                            |
| <b>Dynamic:</b>                                   | Not determined.                                                                            |
| <b>Kinematic:</b>                                 | Not determined.                                                                            |
| · <b>Solvent content:</b>                         |                                                                                            |
| <b>Organic solvents:</b>                          | 99.9 %                                                                                     |
| <b>VOC content:</b>                               | 99.90 %                                                                                    |
|                                                   | 999.0 g/l / 8.34 lb/gal                                                                    |
| <b>Solids content:</b>                            | 0.1 %                                                                                      |
| · <b>Other information</b>                        | 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:** No further relevant information available.

### · **Hazardous decomposition products:**

|         |          |               |
|---------|----------|---------------|
| 67-56-1 | Methanol | carbon oxides |
|---------|----------|---------------|

US

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/14/2020

Revision date 07/14/2020

Trade name: (±)-Cannabichromevarin (CRM)

(Contd. from page 6)

## 11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

### 67-56-1 Methanol

|                    |                      |                                         |
|--------------------|----------------------|-----------------------------------------|
| Oral               | LDLO                 | 143 mg/kg (hmn)                         |
|                    | TDLO                 | 5 ml/kg (rat)                           |
|                    | LD50                 | 5,600 mg/kg (rat)                       |
| Dermal             | LD50                 | 15,800 mg/kg (rabbit)                   |
| Inhalative         | LC50/4 h             | 64,000 mg/m <sup>3</sup> (rat)          |
|                    | LC50                 | 61,100 mg/m <sup>3</sup> /134 m (mouse) |
| Irritation of skin | Irritation           | 20 mg/24h (rabbit)                      |
|                    | Irritation           | (rabbit)                                |
| Irritation of eyes | Irritation           | 5.63 mg/kg/exempt preparation (rabbit)  |
|                    | Irritation           | 40 mg (rabbit)                          |
|                    | Intraperitoneal TDLO | 5 mg/kg (rat)                           |
|                    | Intraperitoneal LD50 | 10,765 mg/kg (mouse)                    |
|                    | Subcutaneous LD50    | 143 mg/kg/human (mouse)                 |
|                    | Data                 | 20 mg/24h (rabbit)                      |

- **Primary irritant effect:**

- **on the skin:** No irritant effect.

- **on the eye:** No irritating effect.

- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is 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 2 (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

(Contd. on page 8)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/14/2020

Revision date 07/14/2020

Trade name: (±)-Cannabichromevarin (CRM)




(Contd. from page 7)

- Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 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.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

- |                                                                                     |                     |
|-------------------------------------------------------------------------------------|---------------------|
| · <b>UN-Number</b>                                                                  |                     |
| · <b>DOT, IMDG, IATA</b>                                                            | UN1230              |
| · <b>UN proper shipping name</b>                                                    |                     |
| · <b>DOT, IATA</b>                                                                  | Methanol solution   |
| · <b>IMDG</b>                                                                       | METHANOL solution   |
| · <b>Transport hazard class(es)</b>                                                 |                     |
| · <b>DOT</b>                                                                        |                     |
|  |                     |
| · <b>Class</b>                                                                      | 3 Flammable liquids |
| · <b>Label</b>                                                                      | 3, 6.1              |
| · <b>IMDG</b>                                                                       |                     |
|  |                     |
| · <b>Class</b>                                                                      | 3 Flammable liquids |
| · <b>Label</b>                                                                      | 3/6.1               |
| · <b>IATA</b>                                                                       |                     |
|  |                     |
| · <b>Class</b>                                                                      | 3 Flammable liquids |
| · <b>Label</b>                                                                      | 3 (6.1)             |

(Contd. on page 9)

-US-



# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/14/2020

Revision date 07/14/2020

Trade name: (±)-Cannabichromevarin (CRM)

(Contd. from page 8)

|                                                                           |                                                                                                                                                                                                                                                                                 |
|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| · Packing group                                                           | II                                                                                                                                                                                                                                                                              |
| · DOT, IMDG, IATA                                                         |                                                                                                                                                                                                                                                                                 |
| · Environmental hazards:                                                  | Not applicable.                                                                                                                                                                                                                                                                 |
| · Special precautions for user                                            | Warning: Flammable liquids                                                                                                                                                                                                                                                      |
| · Hazard identification number (Kemler code):                             | 336                                                                                                                                                                                                                                                                             |
| · EMS Number:                                                             | F-E,S-D                                                                                                                                                                                                                                                                         |
| · Stowage Category                                                        | B                                                                                                                                                                                                                                                                               |
| · Stowage Code                                                            | SW2 Clear of living quarters.                                                                                                                                                                                                                                                   |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable.                                                                                                                                                                                                                                                                 |
| · Transport/Additional information:                                       |                                                                                                                                                                                                                                                                                 |
| · DOT                                                                     |                                                                                                                                                                                                                                                                                 |
| · Quantity limitations                                                    | On passenger aircraft/rail: 1 L<br>On cargo aircraft only: 60 L                                                                                                                                                                                                                 |
| · IMDG                                                                    |                                                                                                                                                                                                                                                                                 |
| · Limited quantities (LQ)                                                 | 1L                                                                                                                                                                                                                                                                              |
| · Excepted quantities (EQ)                                                | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml                                                                                                                                                                 |
| · IATA                                                                    |                                                                                                                                                                                                                                                                                 |
| · Remarks:                                                                | 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. |
| · UN "Model Regulation":                                                  | UN 1230 METHANOL SOLUTION, 3 (6.1), II                                                                                                                                                                                                                                          |

## 15 Regulatory information

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

### · Section 355 (extremely hazardous substances):

None of the ingredients is listed.

### · Section 313 (Specific toxic chemical listings):

67-56-1 | Methanol

### · TSCA (Toxic Substances Control Act):

67-56-1 | Methanol

ACTIVE

### · Hazardous Air Pollutants

67-56-1 | Methanol

### · Proposition 65

### · Chemicals known to cause cancer:

None of the ingredients is listed.

(Contd. on page 10)

-US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/14/2020

Revision date 07/14/2020

**Trade name: (±)-Cannabichromevarin (CRM)**

(Contd. from page 9)

**· Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

**· Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

**· Chemicals known to cause developmental toxicity:**

67-56-1 | Methanol

**· Carcinogenic categories**
**· EPA (Environmental Protection Agency)**

None of the ingredients is listed.

**· TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

**· NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

**· GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

**· Hazard pictograms**


GHS02 GHS08

**· Signal word** Danger

**· Hazard-determining components of labeling:**

Methanol

**· Hazard statements**

Highly flammable liquid and vapor.

Causes damage to the central nervous system and the visual organs.

**· Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Wear protective gloves/protective clothing/eye protection/face protection.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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

Specific treatment (see on this label).

In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.

Store in a well-ventilated place. Keep cool.

Store locked up.

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

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

US

(Contd. on page 11)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/14/2020

Revision date 07/14/2020

**Trade name: (±)-Cannabichromevarin (CRM)**

(Contd. from page 10)

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Environment protection department.

· **Contact:** -

· **Date of preparation / last revision** 07/14/2020 / -

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

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

BEI: Biological Exposure Limit

Flam. Liq. 2: Flammable liquids – Category 2

STOT SE 1: Specific target organ toxicity (single exposure) – Category 1

US