

# Flumetsulam Solution

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Issue date: 01/26/2021

Version: 1.0

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
 Product name : Flumetsulam Solution  
 Product code : AL0-131108

#### 1.2. Recommended use and restrictions on use

No additional information available

#### 1.3. Supplier

Phenova  
 6390 Joyce Dr. Suite 100  
 Golden, CO 80403 - United States  
 T 1-866-942-2978 - F 1-866-283-0269  
[info@phenova.com](mailto:info@phenova.com) - [www.phenova.com](http://www.phenova.com)

#### 1.4. Emergency telephone number

Emergency number : ChemTel Assistance (US/Canada) 1-800-255-3924  
 ChemTel Assistance (International) +1 813-248-0585

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

|   |      |                                   |
|---|------|-----------------------------------|
| Flammable liquids Category 2                                | H225 | Highly flammable liquid and vapor |
| Acute toxicity (oral) Category 3                            | H301 | Toxic if swallowed                |
| Acute toxicity (dermal) Category 3                          | H311 | Toxic in contact with skin        |
| Specific target organ toxicity (single exposure) Category 1 | H370 | Causes damage to organs           |

Full text of H statements : see section 16

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

H225 - Highly flammable liquid and vapor  
 H301+H311 - Toxic if swallowed or in contact with skin  
 H370 - Causes damage to organs

Precautionary statements (GHS US) :

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P233 - Keep container tightly closed.  
 P260 - Do not breathe dust/fume/gas/mist/vapors/spray.  
 P264 - Wash hands, forearms and face thoroughly after handling.  
 P270 - Do not eat, drink or smoke when using this product.  
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
 P301+P310 - If swallowed: Immediately call a poison center or doctor.  
 P302+P352 - If on skin: Wash with plenty of water.  
 P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 P307+P311 - If exposed: Call a poison center/doctor.  
 P312 - Call a poison center or doctor if you feel unwell.  
 P321 - Specific treatment (see supplemental first aid instruction on this label).  
 P322 - Specific treatment (see supplemental first aid instruction on this label).  
 P330 - Rinse mouth.  
 P361+P364 - Take off immediately all contaminated clothing and wash it before reuse.

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P370+P378 - In case of fire: Use media other than water to extinguish.  
P403+P235 - Store in a well-ventilated place. Keep cool.  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

### 2.3. Other hazards which do not result in classification

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

| Name                    | Product identifier | Conc. |
|-------------------------|--------------------|-------|
| methanol<br>(Component) | (CAS-No.) 67-56-1  | 99.99 |

Full text of hazard classes and H-statements : see section 16

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

No additional information available

### 4.2. Most important symptoms and effects (acute and delayed)

No additional information available

### 4.3. Immediate medical attention and special treatment, if necessary

No additional information available

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

No additional information available

### 5.2. Specific hazards arising from the chemical

No additional information available

### 5.3. Special protective equipment and precautions for fire-fighters

No additional information available

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

No additional information available

#### 6.1.2. For emergency responders

No additional information available

### 6.2. Environmental precautions

No additional information available

### 6.3. Methods and material for containment and cleaning up

No additional information available

### 6.4. Reference to other sections

No additional information available

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

No additional information available

### 7.2. Conditions for safe storage, including any incompatibilities

No additional information available

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

| Flumetsulam Solution |                                     |                                      |
|----------------------|-------------------------------------|--------------------------------------|
| ACGIH                | Local name                          | Methanol                             |
| ACGIH                | ACGIH TWA (ppm)                     | 200 ppm                              |
| ACGIH                | Remark (ACGIH)                      | Headache; eye dam; dizziness; nausea |
| ACGIH                | Regulatory reference                | ACGIH 2018                           |
| OSHA                 | OSHA PEL (TWA) (mg/m <sup>3</sup> ) | 260 mg/m <sup>3</sup>                |
| OSHA                 | OSHA PEL (TWA) (ppm)                | 200 ppm                              |
| OSHA                 | Regulatory reference (US-OSHA)      | OSHA                                 |

  

| methanol (67-56-1) |                                     |  |
|--------------------|-------------------------------------|--|
| ACGIH              | Local name                          | Methanol   |
| ACGIH              | ACGIH TWA (ppm)                     | 200 ppm (Methanol; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value) |
| ACGIH              | ACGIH STEL (ppm)                    | 250 ppm (Methanol; USA; Short time value; TLV - Adopted Value)                         |
| ACGIH              | Remark (ACGIH)                      | Headache; eye dam; dizziness; nausea   |
| ACGIH              | Regulatory reference                | ACGIH 2018   |
| OSHA               | OSHA PEL (TWA) (mg/m <sup>3</sup> ) | 260 mg/m <sup>3</sup>  |
| OSHA               | OSHA PEL (TWA) (ppm)                | 200 ppm  |
| OSHA               | Regulatory reference (US-OSHA)      | OSHA   |

#### 8.2. Appropriate engineering controls

No additional information available

#### 8.3. Individual protection measures/Personal protective equipment

No additional information available

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

|   |   |
|---|---|
| Physical state                                  | : Liquid  |
|   | : Mixture contains one or more component(s) which have the following colour(s):<br>Colorless  |
|   | : There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure.<br>Mixture contains one or more component(s) which have the following odour:<br>Alcohol odour |
| Odor threshold                                  | : No data available   |
| pH  | : No data available   |
| Melting point                                   | : No data available   |
| Freezing point                                  | : No data available   |
| Boiling point                                   | : No data available   |
| Flash point                                     | : No data available   |
| Relative evaporation rate (butyl acetate=1)     | : No data available   |
| Flammability (solid, gas)                       | : No data available   |
| Vapor pressure                                  | : No data available   |
| Relative vapor density at 20 °C                 | : No data available   |
| Relative density                                | : No data available   |
| Solubility                                      | : No data available   |
| Partition coefficient n-octanol/water (Log Pow) | : No data available   |

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|                           |                     |
|---------------------------|---------------------|
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Viscosity, kinematic      | : No data available |
| Viscosity, dynamic        | : No data available |
| Explosion limits          | : No data available |
| Explosive properties      | : No data available |
| Oxidizing properties      | : No data available |

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

No additional information available

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

No additional information available

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

No additional information available

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

| Flumetsulam Solution       |  |
|----------------------------|--|
| ATE US (oral)              | 100.01 mg/kg body weight   |
| ATE US (dermal)            | 300.03 mg/kg body weight   |
| methanol (67-56-1)         |  |
| LD50 oral rat              | > 5000 mg/kg (Rat; BASF test; Literature study; 1187-2769 mg/kg bodyweight; Rat; Weight of evidence) |
| LD50 dermal rabbit         | 15800 mg/kg (Rabbit; Literature study)   |
| LC50 inhalation rat (mg/l) | 85 mg/l/4h (Rat; Literature study)   |
| LC50 inhalation rat (ppm)  | 64000 ppm/4h (Rat; Literature study)   |
| ATE US (oral)              | 100 mg/kg body weight  |
| ATE US (dermal)            | 300 mg/kg body weight  |
| ATE US (gases)             | 700 ppmV/4h  |
| ATE US (vapors)            | 3 mg/l/4h  |
| ATE US (dust, mist)        | 0.5 mg/l/4h  |

|                                   |                            |
|-----------------------------------|----------------------------|
| Skin corrosion/irritation         | : Not classified           |
| Serious eye damage/irritation     | : Not classified           |
| Respiratory or skin sensitization | : Not classified           |
| Germ cell mutagenicity            | : Not classified           |
| Carcinogenicity                   | : Not classified           |
| Reproductive toxicity             | : Not classified           |
| STOT-single exposure              | : Causes damage to organs. |
| STOT-repeated exposure            | : Not classified           |
| Aspiration hazard                 | : Not classified           |

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### SECTION 12: Ecological information

#### 12.1. Toxicity

| methanol (67-56-1) |  |
|--------------------|--|
| LC50 fish 1        | 15400 mg/l (LC50; EPA 660/3 - 75/009; 96 h; Lepomis macrochirus; Flow-through system; Fresh water; Experimental value) |
| EC50 Daphnia 1     | > 10000 mg/l (EC50; DIN 38412-11; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)                 |
| LC50 fish 2        | 10800 mg/l (LC50; 96 h; Salmo gairdneri)   |

#### 12.2. Persistence and degradability

| methanol (67-56-1)              |   |
|---------------------------------|---|
| Persistence and degradability   | Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil. |
| Biochemical oxygen demand (BOD) | 0.6 – 1.12 g O <sub>2</sub> /g substance  |
| Chemical oxygen demand (COD)    | 1.42 g O <sub>2</sub> /g substance  |
| ThOD                            | 1.5 g O <sub>2</sub> /g substance   |
| BOD (% of ThOD)                 | 0.8 (Literature study)  |

#### 12.3. Bioaccumulative potential

| methanol (67-56-1)                              |  |
|---|--|
| BCF fish 1                                      | < 10 (BCF; 72 h; Leuciscus idus)               |
| Partition coefficient n-octanol/water (Log Pow) | -0.77 (Experimental value; Other)              |
| Bioaccumulative potential                       | Low potential for bioaccumulation (BCF < 500). |

#### 12.4. Mobility in soil

| methanol (67-56-1)                              |   |
|---|---|
| Surface tension                                 | 0.023 N/m (20 °C)                       |
| Partition coefficient n-octanol/water (Log Koc) | Koc,PCKOCWIN v1.66; 1; Calculated value |

#### 12.5. Other adverse effects

| Flumetsulam Solution |  |
|----------------------|--|
|                      |  |

  

| methanol (67-56-1) |  |
|--------------------|--|
|                    |  |

### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

No additional information available

### SECTION 14: Transport information

#### Department of Transportation (DOT)

In accordance with DOT

|                                |   |
|--------------------------------|---|
| Transport document description | : UN1992 Flammable liquids, toxic, n.o.s. (methanol), 3 (6.1), II |
| UN-No.(DOT)                    | : UN1992  |
| Proper Shipping Name (DOT)     | : Flammable liquids, toxic, n.o.s.<br>methanol                    |
| Class (DOT)                    | : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120   |
| Packing group (DOT)            | : II - Medium Danger  |
| Subsidiary risk (DOT)          | : 6.1 - Class 6.1 - Poisonous materials 49 CFR 173.132            |

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Hazard labels (DOT) : 3 - Flammable liquid  
6.1 - Poison



DOT Packaging Non Bulk (49 CFR 173.xxx) : 202

DOT Packaging Bulk (49 CFR 173.xxx) : 243

DOT Special Provisions (49 CFR 172.102) : IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.

T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3)

TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.

TP13 - Self-contained breathing apparatus must be provided when this hazardous material is transported by sea.

DOT Packaging Exceptions (49 CFR 173.xxx) : 150

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 1 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L

DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"

Emergency Response Guide (ERG) Number : 131

Other information : No supplementary information available.

### Transportation of Dangerous Goods

Not applicable

### Transport by sea

Transport document description (IMDG) : UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S. (methanol), 3 (6.1), II

UN-No. (IMDG) : 1992

Proper Shipping Name (IMDG) : FLAMMABLE LIQUID, TOXIC, N.O.S.

Class (IMDG) : 3 - Flammable liquids

Packing group (IMDG) : II - substances presenting medium danger

Subsidiary risks (IMDG) : 6.1 - Toxic substances

Limited quantities (IMDG) : 1 L

### Air transport

Transport document description (IATA) : UN 1992 Flammable liquid, toxic, n.o.s. (methanol), 3 (6.1), II

UN-No. (IATA) : 1992

Proper Shipping Name (IATA) : Flammable liquid, toxic, n.o.s.

Class (IATA) : 3 - Flammable Liquids

Packing group (IATA) : II - Medium Danger

Subsidiary hazards (IATA) : 6.1 - Toxic substances

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### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

##### methanol (67-56-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory  
Subject to reporting requirements of United States SARA Section 313

Listed on EPA Hazardous Air Pollutant (HAPS)

|           |         |
|-----------|---------|
| CERCLA RQ | 5000 lb |
|-----------|---------|

#### 15.2. International regulations

##### CANADA

##### methanol (67-56-1)

Listed on the Canadian DSL (Domestic Substances List)

##### EU-Regulations

No additional information available

##### National regulations

##### methanol (67-56-1)

Listed on EPA Hazardous Air Pollutant (HAPS)

#### 15.3. US State regulations

##### methanol (67-56-1)

| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | No significant risk level (NSRL) | Maximum allowable dose level (MADL)             |
|---|---|---|---|----------------------------------|---|
| No  | Yes   | No  | No  |                                  | 47000 µg/day (inhalation); 23,000 µg/day (oral) |

### SECTION 16: Other information

Full text of H-phrases:

|      |                                   |
|------|-----------------------------------|
| H225 | Highly flammable liquid and vapor |
| H301 | Toxic if swallowed                |
| H311 | Toxic in contact with skin        |
| H370 | Causes damage to organs           |

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