

# SAFETY DATA SHEET

MS-Grade Calmodulin Resin, Part Number 240106

## Section 1. Identification

**Product identifier** : MS-Grade Calmodulin Resin, Part Number 240106

**Part no.** : 240106

**Material uses** : Analytical reagent.  
0.625 ml MS - Grade calmodulin resin 240106-51

**Supplier/Manufacturer** : Agilent Technologies, Inc.  
5301 Stevens Creek Blvd  
Santa Clara, CA 95051, USA  
800-227-9770

**Emergency telephone number (with hours of operation)** : CHEMTREC®: 1-800-424-9300

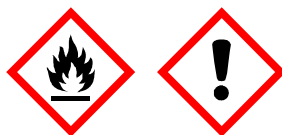
## Section 2. Hazard identification

### Classification of the substance or mixture

**H226** FLAMMABLE LIQUIDS - Category 3  
**H319** EYE IRRITATION - Category 2A  
Health Hazards Not Otherwise Classified - Category 1

### GHS label elements

#### Hazard pictograms



#### Signal word

: Danger

#### Hazard statements

: **H226** - Flammable liquid and vapor.  
**H319** - Causes serious eye irritation.  
Prolonged or repeated contact may dry skin and cause irritation.

### Precautionary statements

#### Prevention

: **P280** - Wear eye or face protection.  
**P210** - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

#### Response

: **P305 + P351 + P338** - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
**P337 + P313** - If eye irritation persists: Get medical advice or attention.

#### Storage

: Not applicable.

#### Disposal

: **P501** - Dispose of contents and container in accordance with all local, regional, national and international regulations.

#### Supplemental label elements

: Avoid contact with skin and clothing. Wash thoroughly after handling.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

Ingredient name	% (w/w)	CAS number
Ethanol	10 - 30	64-17-5
Sodium chloride	1 - 5	7647-14-5

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First-aid measures

### Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Defatting to the skin. May cause skin dryness and irritation.
- Ingestion** : No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:  
irritation  
dryness  
cracking
- Ingestion** : No specific data.

## Section 4. First-aid measures

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** :  No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

**Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.

**Unsuitable extinguishing media** : Do not use water jet.

**Specific hazards arising from the chemical** : Flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
halogenated compounds  
metal oxide/oxides

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

## Section 6. Accidental release measures

- Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

### Control parameters

### Occupational exposure limits

Ingredient name	Exposure limits
Ethanol	<p><b>CA Alberta Provincial (Canada, 6/2018).</b> 8 hrs OEL: 1000 ppm 8 hours. 8 hrs OEL: 1880 mg/m<sup>3</sup> 8 hours.</p> <p><b>CA British Columbia Provincial (Canada, 1/2021).</b> STEL: 1000 ppm 15 minutes.</p> <p><b>CA Ontario Provincial (Canada, 6/2019).</b> STEL: 1000 ppm 15 minutes.</p> <p><b>CA Quebec Provincial (Canada, 7/2019).</b> TWAEV: 1000 ppm 8 hours. TWAEV: 1880 mg/m<sup>3</sup> 8 hours.</p> <p><b>CA Saskatchewan Provincial (Canada, 7/2013).</b> STEL: 1250 ppm 15 minutes. TWA: 1000 ppm 8 hours.</p>

## Section 8. Exposure controls/personal protection

- Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
- Individual protection measures**
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

- Physical state** : Liquid.
- Color** : Not available.
- Odor** : Not available.
- Odor threshold** : Not available.
- pH** : 7.5
- Melting point/freezing point** : Not available.

## Section 9. Physical and chemical properties and safety characteristics

- Boiling point, initial boiling point, and boiling range** : Not available.
- Flash point** : Closed cup: 37.8 to 61°C (100 to 141.8°F)
- Evaporation rate** : Not available.
- Flammability** : Not applicable.
- Lower and upper explosion limit/flammability limit** : Not available.
- Vapor pressure** :

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
Ethanol	42.95	5.7				
Water	23.8	3.2				

- Relative vapor density** : Not available.
- Relative density** : Not available.
- Solubility** : Soluble in the following materials: cold water and hot water.
- Miscible with water** :  Yes.
- Partition coefficient: n-octanol/water** :  Not applicable.
- Auto-ignition temperature** :

Ingredient name	°C	°F	Method
Ethanol	455	851	DIN 51794

- Decomposition temperature** : Not available.
- Viscosity** : Not available.
- Particle characteristics**
- Median particle size** :  Not applicable.

## Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
- Incompatible materials** : Reactive or incompatible with the following materials:  
oxidizing materials
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Ethanol	LC50 Inhalation Vapor	Rat	124700 mg/m <sup>3</sup>	4 hours
Sodium chloride	LD50 Oral	Rat	7 g/kg	-
	LD50 Oral	Rat	3000 mg/kg	-

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Ethanol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Eyes - Moderate irritant	Rabbit	-	0.066666667 minutes 100 mg	-
Sodium chloride	Eyes - Moderate irritant	Rabbit	-	100 uL	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Eyes - Moderate irritant	Rabbit	-	10 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-

#### Sensitization

Not available.

#### Mutagenicity

**Conclusion/Summary** : Not available.

#### Carcinogenicity

**Conclusion/Summary** : Not available.

#### Classification

Product/ingredient name	IARC	NTP	ACGIH
Ethanol	1	-	A3

#### Reproductive toxicity

**Conclusion/Summary** : Not available.

#### Teratogenicity

**Conclusion/Summary** : Not available.

#### Specific target organ toxicity (single exposure)

Not available.

#### Specific target organ toxicity (repeated exposure)

Not available.

#### Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Routes of entry anticipated: Oral, Dermal, Inhalation.

#### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Defatting to the skin. May cause skin dryness and irritation.
- Ingestion** : No known significant effects or critical hazards.

## Section 11. Toxicological information

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:  
irritation  
dryness  
cracking
- Ingestion** : No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

#### Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

#### Potential chronic health effects

- General** : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Reproductive toxicity** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
MS-Grade Calmodulin Resin, Part Number 240106	103448.4	N/A	N/A	N/A	N/A
Ethanol	7000	N/A	N/A	124.7	N/A
Sodium chloride	3000	N/A	N/A	N/A	N/A

## Section 12. Ecological information

### Toxicity

## Section 12. Ecological information

Product/ingredient name	Result	Species	Exposure
Ethanol	Acute EC50 3306 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute EC50 1074 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute LC50 5680 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 11000000 µg/l Marine water	Fish - Alburnus alburnus	96 hours
	Chronic NOEC 4.995 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 100 µl/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
Sodium chloride	Acute EC50 4.74 g/L Fresh water	Algae - Chlamydomonas reinhardtii	96 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
	Chronic NOEC 6 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 0.314 g/L Fresh water	Daphnia - Daphnia pulex	21 days
	Chronic NOEC 100 mg/l Fresh water	Fish - Gambusia holbrooki - Adult	8 weeks

### Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Ethanol	-	-	Readily

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Ethanol	-0.35	0.5	low

### Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>) : Not available.

Other adverse effects : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly.

## Section 13. Disposal considerations

internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

**TDG / IMDG / IATA** : Not regulated.

**Remarks:** Special provisions

MX: 144

IATA: A58

IMDG: 144

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to IMO instruments** : Not available.

## Section 15. Regulatory information

### Canadian lists

**Canadian NPRI** : The following components are listed: ethanol

**CEPA Toxic substances** : None of the components are listed.

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

<b>Australia</b>	: All components are listed or exempted.
<b>Canada</b>	: All components are listed or exempted.
<b>China</b>	: All components are listed or exempted.
<b>Europe</b>	: All components are listed or exempted.
<b>Japan</b>	: <b>Japan inventory (CSCL):</b> All components are listed or exempted. <b>Japan inventory (ISHL):</b> All components are listed or exempted.
<b>New Zealand</b>	: All components are listed or exempted.
<b>Philippines</b>	: All components are listed or exempted.
<b>Republic of Korea</b>	: All components are listed or exempted.
<b>Taiwan</b>	: All components are listed or exempted.
<b>Thailand</b>	: Not determined.
<b>Turkey</b>	: Not determined.
<b>United States</b>	: All components are active or exempted.

## Section 15. Regulatory information

**Viet Nam** : All components are listed or exempted.

## Section 16. Other information

### History

**Date of issue/Date of revision** : 11/30/2021

**Date of previous issue** : 03/29/2021

**Version** : 8.1

**Key to abbreviations** : ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 HPR = Hazardous Products Regulations  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 LogPow = logarithm of the octanol/water partition coefficient  
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 N/A = Not available  
 UN = United Nations

### Procedure used to derive the classification

Classification	Justification
<input checked="" type="checkbox"/> FLAMMABLE LIQUIDS - Category 3 EYE IRRITATION - Category 2A Health Hazards Not Otherwise Classified - Category 1	On basis of test data Calculation method On basis of test data

**References** : Not available.

Indicates information that has changed from previously issued version.

### Notice to reader

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