

SAFETY DATA SHEET



VT Sample Kit, Part Number 190350518

Section 1. Identification

This product is considered an article. This Material Safety Data Sheet is written based on the encapsulated substance or mixture in this article.

1.1 Product identifier

Product name : VT Sample Kit, Part Number 190350518
Part No. (Chemical Kit) : 190350518
Part No. : Hi Temp Cal 190350679
 Lo Temp Cal 190350680
Validation date : 07/28/2014.

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

Material uses : Analytical chemistry.
 2 x 250 µl
 Hi Temp Cal 250 µl
 Lo Temp Cal 250 µl

1.3 Details of the supplier of the safety data sheet

Supplier/Manufacturer : Agilent Technologies, Inc.
 Logistics Center - Americas
 500 Ships Landing Way
 New Castle, Delaware 19720
 800-227-9770

1.4 Emergency telephone number

In case of emergency : CHEMTREC®: 1-800-424-9300

Section 2. Hazards identification

This article, when used under reasonable conditions and in accordance with the directions for use, should not present a health hazard. The substance or mixture is encapsulated in the article. Only if released due to use or processing of the article in a manner not in accordance with the product's directions for use it may present potential health and safety hazards.

2.1 Classification of the substance or mixture

OSHA/HCS status : Hi Temp Cal This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
 Lo Temp Cal This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture

Hi Temp Cal

H302 ACUTE TOXICITY (oral) - Category 4
 H320 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2B
 H370 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (kidneys) - Category 1

Lo Temp Cal

H225 FLAMMABLE LIQUIDS - Category 2
 H301 ACUTE TOXICITY (oral) - Category 3
 H311 ACUTE TOXICITY (dermal) - Category 3
 H331 ACUTE TOXICITY (inhalation) - Category 3

Section 2. Hazards identification

H315	SKIN CORROSION/IRRITATION - Category 2
H319	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
H360	TOXIC TO REPRODUCTION (Fertility) - Category 1B
H360	TOXIC TO REPRODUCTION (Unborn child) - Category 1B
H370	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (central nervous system (CNS)) - Category 1
H335	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

2.2 GHS label elements

Hazard pictograms



Signal word

: Hi Temp Cal Danger
Lo Temp Cal Danger

Hazard statements

: Hi Temp Cal H302 - Harmful if swallowed.
 H320 - Causes eye irritation.
 H370 - Causes damage to organs. (kidneys)
Lo Temp Cal H225 - Highly flammable liquid and vapor.
 H301 + H311 + H331 - Toxic if swallowed, in
 contact with skin or if inhaled.
 H319 - Causes serious eye irritation.
 H315 - Causes skin irritation.
 H360 - May damage fertility or the unborn child.
 H370 - Causes damage to organs. (central nervous
 system (CNS))
 H335 - May cause respiratory irritation.

Precautionary statements

Prevention

: Hi Temp Cal P280 - Wear eye or face protection.
 P260 - Do not breathe vapor.
 P270 - Do not eat, drink or smoke when using
 this product.
Lo Temp Cal P264 - Wash hands thoroughly after handling.
 P201 - Obtain special instructions before use.
 P202 - Do not handle until all safety precautions
 have been read and understood.
 P281 - Use personal protective equipment as
 required.
 P280 - Wear protective gloves. Wear eye or face
 protection. Wear protective clothing.
 P210 - Keep away from heat, sparks, open
 flames and hot surfaces. - No smoking.
 P241 - Use explosion-proof electrical, ventilating,
 lighting and all material-handling equipment.
 P242 - Use only non-sparking tools.
 P243 - Take precautionary measures against
 static discharge.
 P233 - Keep container tightly closed.
 P271 - Use only outdoors or in a well-ventilated
 area.
 P260 - Do not breathe vapor.
 P270 - Do not eat, drink or smoke when using
 this product.
 P264 - Wash hands thoroughly after handling.

Section 2. Hazards identification

Response	: Hi Temp Cal	<p>P307 + P311 - IF exposed: Call a POISON CENTER or physician. P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth. 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 attention.</p>
	Lo Temp Cal	<p>P307 + P311 - IF exposed: Call a POISON CENTER or physician. P304 + P340 + P311 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician. P301 + P310 + P330 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. P302 + P352 + P312 + P362-2 - IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or physician if you feel unwell. Take off contaminated clothing. P332 + P313 - If skin irritation occurs: Get medical attention. 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 attention.</p>
Storage	: Hi Temp Cal Lo Temp Cal	<p>P405 - Store locked up. P405 - Store locked up. P403 - Store in a well-ventilated place. P235 - Keep cool.</p>
Disposal	: Hi Temp Cal Lo Temp Cal	<p>P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.</p>
Supplemental label elements	: Hi Temp Cal Lo Temp Cal	<p>None known. Avoid contact with skin and clothing. Wash thoroughly after handling.</p>
<u>2.3 Other hazards</u>		
Hazards not otherwise classified	: Hi Temp Cal Lo Temp Cal	<p>None known. Defatting to the skin. Prolonged or repeated contact may dry skin and cause irritation.</p>

Section 3. Composition/information on ingredients

This article, when used under reasonable conditions and in accordance with the directions for use, should not present a health hazard. The substance or mixture is encapsulated in the article. Only if released due to use or processing of the article in a manner not in accordance with the product's directions for use it may present potential health and safety hazards.

Substance/mixture : Hi Temp Cal Substance (encapsulated in article)
Lo Temp Cal Substance (encapsulated in article)

Ingredient name	%	CAS number
Hi Temp Cal Ethenediol	60 - 100	107-21-1
Lo Temp Cal Methanol	60 - 100	67-56-1

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no 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

4.1 Description of necessary first aid measures

Eye contact	: Hi Temp Cal	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. If necessary, call a poison center or physician.
	Lo Temp Cal	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. If necessary, call a poison center or physician.
Inhalation	: Hi Temp Cal	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 necessary, call a poison center or physician. 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.
	Lo Temp Cal	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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 necessary, call a poison center or physician. If

Section 4. First aid measures

Skin contact

: Hi Temp Cal

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.

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Lo Temp Cal

Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion

: Hi Temp Cal

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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 necessary, call a poison center or physician. 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.

Lo Temp Cal

Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. 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.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact

: Hi Temp Cal
Lo Temp Cal

Causes eye irritation.
Causes serious eye irritation.

Inhalation

: Hi Temp Cal
Lo Temp Cal

No known significant effects or critical hazards.
Toxic if inhaled. May cause respiratory irritation.

Section 4. First aid measures

Skin contact	: Hi Temp Cal Lo Temp Cal	No known significant effects or critical hazards. Toxic in contact with skin. Causes skin irritation. Defatting to the skin.
Ingestion	: Hi Temp Cal Lo Temp Cal	Harmful if swallowed. May be irritating to mouth, throat and stomach. Toxic if swallowed. Irritating to mouth, throat and stomach.
<u>Over-exposure signs/symptoms</u>		
Eye contact	: Hi Temp Cal Lo Temp Cal	Adverse symptoms may include the following: irritation watering redness Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	: Hi Temp Cal Lo Temp Cal	No specific data. Adverse symptoms may include the following: respiratory tract irritation coughing reduced fetal weight increase in fetal deaths skeletal malformations
Skin contact	: Hi Temp Cal Lo Temp Cal	No specific data. Adverse symptoms may include the following: irritation redness dryness cracking reduced fetal weight increase in fetal deaths skeletal malformations
Ingestion	: Hi Temp Cal Lo Temp Cal	No specific data. Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations

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

Notes to physician	: Hi Temp Cal Lo Temp Cal	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: Hi Temp Cal Lo Temp Cal	No specific treatment. No specific treatment.
Protection of first-aiders	: Hi Temp Cal Lo Temp Cal	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. No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person

Section 4. First aid measures

providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media	: Hi Temp Cal Lo Temp Cal	Use an extinguishing agent suitable for the surrounding fire. Use dry chemical, CO ₂ , water spray (fog) or foam.
Unsuitable extinguishing media	: Hi Temp Cal Lo Temp Cal	None known. Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	: Hi Temp Cal Lo Temp Cal	In a fire or if heated, a pressure increase will occur and the container may burst. Highly flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.
Hazardous thermal decomposition products	: Decomposition products may include the following materials: carbon dioxide carbon monoxide	

5.3 Advice for firefighters

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

6.1 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. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised 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".

- 6.2 Environmental precautions** : Hi Temp Cal 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).
- Lo Temp Cal 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).

6.3 Methods and materials for containment and cleaning up

- Hi Temp Cal Stop leak if without risk. Move containers from spill area. 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.
- Lo Temp Cal 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

7.1 Precautions for safe handling

- Protective measures** : Hi Temp Cal Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Lo Temp Cal Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. 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

Section 7. Handling and storage

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.

7.2 Conditions for safe storage, including any incompatibilities

: Hi Temp Cal

Store in accordance with local regulations. 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. Store locked up. 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.

Lo Temp Cal

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. Store locked up. 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.

7.3 Specific end use(s)

Recommendations

: Hi Temp Cal Industrial applications, Professional applications.
Lo Temp Cal Industrial applications, Professional applications.

Industrial sector specific solutions

: Not applicable.

Section 8. Exposure controls/personal protection

Since the hazardous ingredient in this article is encapsulated, the risk of exposure by inhalation, ingestion, skin contact and eyes contact is minimum.

8.1 Control parameters

Occupational exposure limits

Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
Hi Temp Cal Ethanediol	OSHA PEL 1989 (United States, 3/1989). CEIL: 50 ppm CEIL: 125 mg/m ³ ACGIH TLV (United States, 6/2013). C: 100 mg/m ³ Form: Aerosol
Lo Temp Cal Methanol	OSHA PEL 1989 (United States, 3/1989). CEIL: 50 ppm CEIL: 125 mg/m ³ ACGIH TLV (United States, 6/2013). C: 100 mg/m ³ Form: Aerosol

8.2 Exposure controls

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.

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

- : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	: Hi Temp Cal Lo Temp Cal	Liquid. [Viscous liquid.] Liquid. [Clear.]
Color	: Hi Temp Cal Lo Temp Cal	Colorless. Colorless. Clear.
Odor	: Hi Temp Cal Lo Temp Cal	Slight Characteristic.
Odor threshold	: Hi Temp Cal Lo Temp Cal	Not available. Not available.
pH	: Hi Temp Cal Lo Temp Cal	Not available. Not available.
Melting point	: Hi Temp Cal Lo Temp Cal	-13°C (8.6°F) -97.8°C (-144°F)
Boiling point	: Hi Temp Cal Lo Temp Cal	198°C (388.4°F) 60.9°C (141.6°F)
Flash point	: Hi Temp Cal Lo Temp Cal	Closed cup: 111°C (231.8°F) Open cup: 115°C (239°F) Closed cup: 15°C (59°F) [Setaflash.]
Evaporation rate	: Hi Temp Cal Lo Temp Cal	0.01 (butyl acetate = 1) 2.1 (butyl acetate = 1)
Flammability (solid, gas)	: Hi Temp Cal Lo Temp Cal	Not applicable. Not applicable.
Lower and upper explosive (flammable) limits	: Hi Temp Cal Lo Temp Cal	Lower: 3.2% Upper: 15.3% Lower: 6% Upper: 44%
Vapor pressure	: Hi Temp Cal Lo Temp Cal	0.007 kPa (0.0525 mm Hg) [room temperature] 16.9 kPa (126.96 mm Hg) [room temperature]
Vapor density	: Hi Temp Cal Lo Temp Cal	2.1 [Air = 1] 1.1 [Air = 1]
Relative density	: Hi Temp Cal Lo Temp Cal	1.1 0.79
Solubility	: Hi Temp Cal Lo Temp Cal	Easily soluble in the following materials: cold water, hot water, methanol and acetone. Easily soluble in the following materials: cold water, hot water, methanol, n-octanol and acetone.
Solubility in water	: Not available.	
Partition coefficient: n-octanol/water	: Hi Temp Cal Lo Temp Cal	-1.93 -0.77
Auto-ignition temperature	: Hi Temp Cal Lo Temp Cal	398°C (748.4°F) 455°C (851°F)
Decomposition temperature	: Hi Temp Cal Lo Temp Cal	500 to 600°C (932 to 1112°F) Not available.
Viscosity	: Hi Temp Cal Lo Temp Cal	Dynamic (room temperature): 16.1 mPa·s (16.1 cP) Dynamic (room temperature): 0.544 to 0.59 mPa·s (0.544 to 0.59 cP)

Section 10. Stability and reactivity

10.1 Reactivity	: Hi Temp Cal Lo Temp Cal	No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: Hi Temp Cal Lo Temp Cal	The product is stable. The product is stable.
10.3 Possibility of hazardous reactions	: Hi Temp Cal Lo Temp Cal	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: Hi Temp Cal Lo Temp Cal	No specific data. 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. Do not allow vapor to accumulate in low or confined areas.
10.5 Incompatible materials	: Hi Temp Cal Lo Temp Cal	No specific data. Reactive or incompatible with the following materials: oxidizing materials
10.6 Hazardous decomposition products	: Hi Temp Cal Lo Temp Cal	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Hi Temp Cal Ethanediol	LD50 Oral	Rat	4700 mg/kg	-
Lo Temp Cal Methanol	LC50 Inhalation Vapor	Rat	145000 ppm	1 hours
	LC50 Inhalation Vapor	Rat	64000 ppm	4 hours
	LD50 Dermal	Rabbit	15800 mg/kg	-
	LD50 Oral	Rat	5600 mg/kg	-

Irritation/Corrosion

Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
Hi Temp Cal Ethanediol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	1 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	6 hours 1440 milligrams	-
	Skin - Mild irritant	Rabbit	-	555 milligrams	-
Lo Temp Cal Methanol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	40 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Hi Temp Cal Ethanediol	Category 1	Not determined	kidneys
Lo Temp Cal Methanol	Category 1	Not determined	central nervous system (CNS)
	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Hi Temp Cal Causes eye irritation.
Lo Temp Cal Causes serious eye irritation.

Section 11. Toxicological information

Inhalation	: Hi Temp Cal Lo Temp Cal	No known significant effects or critical hazards. Toxic if inhaled. May cause respiratory irritation.
Skin contact	: Hi Temp Cal Lo Temp Cal	No known significant effects or critical hazards. Toxic in contact with skin. Causes skin irritation. Defatting to the skin.
Ingestion	: Hi Temp Cal Lo Temp Cal	Harmful if swallowed. May be irritating to mouth, throat and stomach. Toxic if swallowed. Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	: Hi Temp Cal Lo Temp Cal	Adverse symptoms may include the following: irritation watering redness Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	: Hi Temp Cal Lo Temp Cal	No specific data. Adverse symptoms may include the following: respiratory tract irritation coughing reduced fetal weight increase in fetal deaths skeletal malformations
Skin contact	: Hi Temp Cal Lo Temp Cal	No specific data. Adverse symptoms may include the following: irritation redness dryness cracking reduced fetal weight increase in fetal deaths skeletal malformations
Ingestion	: Hi Temp Cal Lo Temp Cal	No specific data. Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations

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

Not available.

Section 11. Toxicological information

General	: Hi Temp Cal Lo Temp Cal	No known significant effects or critical hazards. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
Carcinogenicity	: Hi Temp Cal Lo Temp Cal	No known significant effects or critical hazards. No known significant effects or critical hazards.
Mutagenicity	: Hi Temp Cal Lo Temp Cal	No known significant effects or critical hazards. No known significant effects or critical hazards.
Teratogenicity	: Hi Temp Cal Lo Temp Cal	No known significant effects or critical hazards. May damage the unborn child.
Developmental effects	: Hi Temp Cal Lo Temp Cal	No known significant effects or critical hazards. No known significant effects or critical hazards.
Fertility effects	: Hi Temp Cal Lo Temp Cal	No known significant effects or critical hazards. May damage fertility.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Other information	: Hi Temp Cal Lo Temp Cal	Not available. Adverse symptoms may include the following: redness . Defatting to the skin. Adverse health effects could include the following: blurred or double vision, headache Repeated exposure may cause skin dryness or cracking. Eye contact can result in corneal damage or blindness. Repeated or prolonged exposure to the substance can produce liver damage.
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Section 12. Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Hi Temp Cal Ethanediol	Acute LC50 100000 µg/l Marine water	Crustaceans - Crangon crangon - Adult	48 hours
	Acute LC50 10000000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 8050000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Lo Temp Cal Methanol	Acute EC50 16.912 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute EC50 10000000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 2500000 µg/l Marine water	Crustaceans - Crangon crangon - Adult	48 hours
	Acute LC50 100 mg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Chronic NOEC 9.96 mg/l Marine water	Algae - Ulva pertusa	96 hours

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Hi Temp Cal Ethanediol	-	56 % - Readily - 1 days	100 mg/l	Activated sludge

Section 12. Ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Hi Temp Cal Ethenediol	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Hi Temp Cal Ethenediol	-1.93	-	low
Lo Temp Cal Methanol	-0.77	<10	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

12.5 Other adverse effects : Hi Temp Cal No known significant effects or critical hazards.
Lo Temp Cal No known significant effects or critical hazards.

Section 13. Disposal considerations

13.1 Waste treatment methods

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

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

This Material Safety Data Sheet is written based on the encapsulated substance or mixture in this article. Since the hazardous ingredient is encapsulated, the risk of exposure by inhalation, ingestion, skin contact and eyes contact is minimum.

Regulatory information

Additional information : Remarks
De minimis quantities

Section 14. Transport information

DOT / IMDG / IATA : Not regulated.

Section 15. Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

U.S. Federal regulations : United States inventory (TSCA 8b): All components are listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304**Composition/information on ingredients**

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312Classification : Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard**Composition/information on ingredients**

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Hi Temp Cal Ethanediol	60 - 100	No.	No.	No.	Yes.	No.
Lo Temp Cal Methanol	60 - 100	Yes.	No.	No.	Yes.	Yes.

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	Hi Temp Cal Ethanediol	107-21-1	60 - 100
	Lo Temp Cal Methanol	67-56-1	60 - 100
Supplier notification	Hi Temp Cal Ethanediol	107-21-1	60 - 100
	Lo Temp Cal Methanol	67-56-1	60 - 100

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

Section 15. Regulatory information

State regulations

- Massachusetts** : The following components are listed: ETHYLENE GLYCOL; METHANOL
- New York** : The following components are listed: Ethylene glycol; Methanol
- New Jersey** : The following components are listed: ETHYLENE GLYCOL; 1,2-ETHANEDIOL; METHYL ALCOHOL; METHANOL
- Pennsylvania** : The following components are listed: 1,2-ETHANEDIOL; METHANOL

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Lo Temp Cal Methanol	No.	Yes.	No.	23000 µg/day (ingestion) 47000 µg/day (inhalation)

Canada inventory : All components are listed or exempted.

International regulations

- International lists** :
- Australia inventory (AICS):** All components are listed or exempted.
 - China inventory (IECSC):** All components are listed or exempted.
 - Japan inventory:** All components are listed or exempted.
 - Korea inventory:** All components are listed or exempted.
 - Malaysia Inventory (EHS Register):** All components are listed or exempted.
 - New Zealand Inventory of Chemicals (NZIoC):** All components are listed or exempted.
 - Philippines inventory (PICCS):** All components are listed or exempted.
 - Taiwan inventory (CSNN):** Not determined.

Chemical Weapons Convention List Schedule I Chemicals : Not listed

Chemical Weapons Convention List Schedule II Chemicals : Not listed

Chemical Weapons Convention List Schedule III Chemicals : Not listed

Section 16. Other information

History

- Date of issue** : 07/28/2014.
- Date of previous issue** : 10/16/2013.
- Version** : 2

☑ Indicates information that has changed from previously issued version.

Notice to reader

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