

MATERIAL SAFETY DATA SHEET

Catalase Assay Buffer (10X)

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Cayman Chemical Company
1180 E. Ellsworth Rd.
Ann Arbor, MI 48108

Printed: 12/18/2009
Revision: 12/16/2009
Supersedes Revision: 09/30/2004
Date Created: 04/15/2002

1. Product and Company Identification

Product Code: 707010
Product Name: Catalase Assay Buffer (10X)
Manufacturer Information
Company Name: Cayman Chemical Company
Emergency Contact: Cayman Chemical Company (800)364-9897
Information: Cayman Chemical Company (734)971-3335

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA PEL	ACGIH TLV	Other Limits
1. Potassium phosphate, Monobasic	7778-77-0	13.61 %	No data.	No data.	No data.
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Potassium phosphate, Monobasic	TC6615500	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview: No data available.
Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection
Potential Health Effects (Acute and Chronic): Irritant.
Irritating to the skin, eyes, nose, throat, and respiratory tract.
May be harmful by inhalation, ingestion, or skin absorption.
May cause eye, skin, or respiratory system irritation.
The toxicological properties of this compound have not been fully evaluated.
Signs and Symptoms Of Exposure: No data available.

4. First Aid Measures

Emergency and First Aid Procedures: If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
If swallowed, wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.
In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After initial flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eyes examined and tested by medical personnel.
In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

5. Fire Fighting Measures

Flash Pt: No data. Method Used: Unknown
Explosive Limits: LEL: No data. UEL: No data.
Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
Flammable Properties and Hazards: Emits toxic and corrosive fumes under fire conditions.
Extinguishing Media: Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.
Unsuitable Extinguishing Media: No data available.

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6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled: Wear a NIOSH/MSHA approved self-contained breathing apparatus and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.
After removal, ventilate contaminated area and flush thoroughly with water.

7. Handling and Storage

Hazard Label Information: Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation.
Wash thoroughly after handling.

Precautions To Be Taken in Handling: Avoid breathing (dust, vapor, mist, gas).
Avoid contact with eyes, skin, and clothing.
Avoid prolonged or repeated exposure.
Do not reuse this container.
Hygroscopic.
Use with adequate ventilation.
Wash thoroughly after handling.

Precautions To Be Taken in Storing: Keep tightly closed.
Store at correct temperature.

8. Exposure Controls/Personal Protection

Protective Equipment Summary - Hazard Label Information: Eye wash station in work area Lab coat Compatible chemical-resistant gloves Safety glasses Safety shower in work area Vent Hood

Respiratory Equipment (Specify Type): No data available.

Eye Protection: Safety glasses

Protective Gloves: Compatible chemical-resistant gloves

Other Protective Clothing: Lab coat

Engineering Controls (Ventilation etc.): Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Work/Hygienic/Maintenance Practices: Do not take internally.
Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
Wash thoroughly after handling.

9. Physical and Chemical Properties

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

Melting Point: No data.

Boiling Point: No data.

Autoignition Pt: No data.

Flash Pt: No data. Method Used: Unknown

Explosive Limits: LEL: No data. UEL: No data.

Specific Gravity (Water = 1): No data.

Bulk density: No data.

Vapor Pressure (vs. Air or mm Hg): No data.

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

Evaporation Rate (vs Butyl Acetate=1): No data.

Solubility in Water: No data.

Percent Volatile: No data.

Heat Value: No data.

Particle Size: No data.

Corrosion Rate: No data.

pH: No data.

Appearance and Odor: A clear, colorless solution

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10. Stability and Reactivity

Stability: Unstable [] Stable [X]
Conditions To Avoid - Instability: protect from moisture
Incompatibility - Materials To Avoid: strong oxidizing agents
Hazardous Decomposition Or Byproducts: phosphorus oxides
 potassium oxides
Hazardous Polymerization: Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Polymerization: No data available.

11. Toxicological Information

: The toxicological effects of this compound have not been thoroughly studied.
Carcinogenicity/Other Information: No data available.
Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

: Runoff from fire control or dilution water may cause pollution.

13. Disposal Considerations

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

14. Transport Information

LAND TRANSPORT (US DOT)
DOT Proper Shipping Name This substance is considered non-hazardous for transport.
Additional Transport Information: Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Potassium phosphate, Monobasic	7778-77-0	No	No	No	No

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Potassium phosphate, Monobasic	7778-77-0	HAP, ODC ()	No	Inventory	No

16. Other Information

Company Policy or Disclaimer

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Catalase Hydrogen Peroxide

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Cayman Chemical Company
1180 E. Ellsworth Rd.
Ann Arbor, MI 48108

Printed: 12/18/2009
Revision: 12/16/2009
Supersedes Revision: 09/30/2004
Date Created: 04/15/2002

1. Product and Company Identification

Product Code: 707011
Product Name: Catalase Hydrogen Peroxide
Manufacturer Information
Company Name: Cayman Chemical Company
Emergency Contact: Cayman Chemical Company (800)364-9897
Information: Cayman Chemical Company (734)971-3335

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA PEL	ACGIH TLV	Other Limits
1. Hydrogen peroxide	7722-84-1	30.0 %	TWA:1ppm	No data.	No data.
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Hydrogen peroxide	MX0899000	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview: No data available.

Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection

Potential Health Effects (Acute and Chronic): Causes severe burns.
Corrosive.
Harmful if swallowed, inhaled, or absorbed through the skin.
Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract, eyes, and skin.
May cause blood abnormalities.
May cause central nervous system effects.
Strong oxidizer.
The toxicological properties of this compound have not been fully evaluated.
Vapors are irritating and corrosive.

Signs and Symptoms Of Exposure: At high concentrations, respiratory effects may include acute lung damage and delayed pulmonary edema.
Eye contact may cause corneal damage.
Ingestion causes gastrointestinal irritation with nausea, headache, vomiting, and diarrhea.
Ingestion may cause gastrointestinal tract burns.
Ingestion may result in irritation of the esophagus, bleeding of the stomach and ulcer formation.
Inhalation may result in ulceration of nasal tissue, insomnia, nervous tremors with numb extremities, chemical pneumonia, unconsciousness, and death.
Irritating to the nose, throat and respiratory tract.
May cause vascular collapse and damage.
Prolonged or repeated skin contact may cause dermatitis.
Skin contact may result in discoloration, erythema (redness), swelling, and the formation of papules and vesicles (blisters).

4. First Aid Measures

Emergency and First Aid Procedures: If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
Do not give direct mouth-to-mouth if victim ingested or inhaled this substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
If swallowed, wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.
In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After initial

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flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eyes examined and tested by medical personnel.

In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

5. Fire Fighting Measures

Flash Pt: No data. Method Used: Unknown

Explosive Limits: LEL: No data. UEL: No data.

Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

Flammable Properties and Hazards: Contact with oxidizable substances may cause extremely violent combustion.
Emits toxic fumes under fire conditions.
Keep away from combustible materials.
May react with metals.
Sensitive to light.
Strong oxidizer. Contact with combustible materials may cause a fire.
Vapors may be heavier than air.

Extinguishing Media: USE WATER ONLY! Do NOT use carbon dioxide or dry chemical.

Unsuitable Extinguishing Media: No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled: Wear a NIOSH/MSHA approved self-contained breathing apparatus and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.
After removal, ventilate contaminated area and flush thoroughly with water.

7. Handling and Storage

Hazard Label Information: Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation.
Wash thoroughly after handling.

Precautions To Be Taken in Handling: Avoid breathing (dust, vapor, mist, gas).
Avoid contact with eyes, skin, and clothing.
Avoid prolonged or repeated exposure.
Do not reuse this container.
Keep away from sources of ignition.
Reacts violently with water.
Use with adequate ventilation.
Wash thoroughly after handling.

Precautions To Be Taken in Storing: Light sensitive.
Store at correct temperature.

Other Precautions: Keep away from alkalis, oxidizable materials, finely divided metals, alcohols, and permanganates.
Rinse empty containers thoroughly with clean water.

8. Exposure Controls/Personal Protection

Protective Equipment Summary - Hazard Label Information: Eye wash station in work area Lab coat Compatible chemical-resistant gloves Safety glasses Safety shower in work area Vent Hood

Respiratory Equipment (Specify Type): No data available.

Eye Protection: Safety glasses

Protective Gloves: Compatible chemical-resistant gloves

Other Protective Clothing: Lab coat

Engineering Controls (Ventilation etc.): Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

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Work/Hygienic/Maintenance Practices: Do not take internally.
 Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
 Wash thoroughly after handling.

9. Physical and Chemical Properties

Physical States: [] Gas [X] Liquid [] Solid
Melting Point: No data.
Boiling Point: No data.
Autoignition Pt: No data.
Flash Pt: No data. Method Used: Unknown
Explosive Limits: LEL: No data. UEL: No data.
Specific Gravity (Water = 1): No data.
Bulk density: No data.
Vapor Pressure (vs. Air or mm Hg): No data.
Vapor Density (vs. Air = 1): No data.
Evaporation Rate (vs Butyl Acetate=1): No data.
Solubility in Water: No data.
Percent Volatile: No data.
Heat Value: No data.
Particle Size: No data.
Corrosion Rate: No data.
pH: No data.
Appearance and Odor: A clear, colorless solution

10. Stability and Reactivity

Stability: Unstable [] Stable [X]
Conditions To Avoid - Instability: decomposes slowly to release oxygen
 protect from heat
 protect from light
 protect from mechanical shock
Incompatibility - Materials To Avoid: heat
 reducing agents
 organic materials
 dirt
 alkali metals
 rust
 many metals
Hazardous Decomposition Or Byproducts: heat
 hydrogen gas
 oxygen
 steam
 water
Hazardous Polymerization: Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Polymerization: No data available.

11. Toxicological Information

Chronic Toxicological Effects: The toxicological effects of this compound have not been thoroughly studied.
 Hydrogen peroxide - Investigated as a tumorigen and mutagen.
 Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here.
 See actual entry in RTECS for complete information.
 Hydrogen peroxide RTECS Number: MX0899000

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Carcinogenicity/Other Information: No data available.
Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

: Runoff from fire control or dilution water may cause pollution.

13. Disposal Considerations

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

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name Hydrogen peroxide, aqueous solution, with 20% or more but 40% or less hydrogen peroxide (stabilized as necessary)
DOT Hazard Class: 5.1(8)
DOT Hazard Label: OXIDIZER, CORROSIVE
UN/NA Number: 2014
Packing Group: II

AIR TRANSPORT (ICAO/IATA)

ICAO/IATA Proper Shipping Name Hydrogen peroxide, aqueous solution, with 20% or more but 40% or less hydrogen peroxide (stabilized as necessary)
UN Number: 2014
Packing Group: II
IATA Classification: 5.1,8

Additional Transport Information: According to IATA Regulations, this product ships as an excepted quantity. Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Hydrogen peroxide	7722-84-1	No	No	No	No

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Hydrogen peroxide	7722-84-1	HAP, ODC ()	No	Inventory	No

16. Other Information

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Catalase Sample Buffer (10X)

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Cayman Chemical Company
1180 E. Ellsworth Rd.
Ann Arbor, MI 48108

Printed: 12/18/2009
Revision: 12/16/2009
Supersedes Revision: 09/30/2004
Date Created: 04/15/2002

1. Product and Company Identification

Product Code: 707012
Product Name: Catalase Sample Buffer (10X)
Manufacturer Information
Company Name: Cayman Chemical Company
Emergency Contact: Cayman Chemical Company (800)364-9897
Information: Cayman Chemical Company (734)971-3335

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA PEL	ACGIH TLV	Other Limits
1. Potassium phosphate, Monobasic	7778-77-0	3.4 %	No data.	No data.	No data.
2. Ethylenediamine Tetraacetic Acid	60-00-4	0.92 %	No data.	No data.	No data.
3. Serum Albumin	9048-46-8	1.0 %	No data.	No data.	No data.

Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Potassium phosphate, Monobasic	TC6615500	No data.	No data.	No data.	No data.
2. Ethylenediamine Tetraacetic Acid	AH4025000	No data.	No data.	No data.	No data.
3. Serum Albumin	MT6446000	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview: No data available.
Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection
Potential Health Effects (Acute and Chronic): Irritant.
Irritating to the skin, eyes, nose, throat, and respiratory tract.
May be harmful by inhalation, ingestion, or skin absorption.
May cause eye, skin, or respiratory system irritation.
The toxicological properties of this compound have not been fully evaluated.
Signs and Symptoms Of Exposure: No data available.

4. First Aid Measures

Emergency and First Aid Procedures:
If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
If swallowed, wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.
In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After initial flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eyes examined and tested by medical personnel.
In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

5. Fire Fighting Measures

Flash Pt: No data. Method Used: Unknown
Explosive Limits: LEL: No data. UEL: No data.
Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
Flammable Properties and Hazards: Emits toxic fumes under fire conditions.
Extinguishing Media: Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.

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Unsuitable Extinguishing Media: No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled: Wear a NIOSH/MSHA approved self-contained breathing apparatus and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.
After removal, ventilate contaminated area and flush thoroughly with water.

7. Handling and Storage

Hazard Label Information: Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation.
Wash thoroughly after handling.

Precautions To Be Taken in Handling: Avoid breathing (dust, vapor, mist, gas).
Avoid contact with eyes, skin, and clothing.
Avoid prolonged or repeated exposure.
Do not reuse this container.
Hygroscopic.
Use with adequate ventilation.
Wash thoroughly after handling.

Precautions To Be Taken in Storing: Keep tightly closed.
Store at correct temperature.

8. Exposure Controls/Personal Protection

Protective Equipment Summary - Hazard Label Information: Eye wash station in work area Lab coat Compatible chemical-resistant gloves Safety glasses Safety shower in work area Vent Hood

Respiratory Equipment (Specify Type): No data available.

Eye Protection: Safety glasses

Protective Gloves: Compatible chemical-resistant gloves

Other Protective Clothing: Lab coat

Engineering Controls (Ventilation etc.): Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Work/Hygienic/Maintenance Practices: Do not take internally.
Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
Wash thoroughly after handling.

9. Physical and Chemical Properties

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

Melting Point: No data.

Boiling Point: No data.

Autoignition Pt: No data.

Flash Pt: No data. Method Used: Unknown

Explosive Limits: LEL: No data. UEL: No data.

Specific Gravity (Water = 1): No data.

Bulk density: No data.

Vapor Pressure (vs. Air or mm Hg): No data.

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

Evaporation Rate (vs Butyl Acetate=1): No data.

Solubility in Water: No data.

Percent Volatile: No data.

Heat Value: No data.

Particle Size: No data.

Corrosion Rate: No data.

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Catalase Sample Buffer (10X)

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pH: No data.
Appearance and Odor: A clear, colorless solution

10. Stability and Reactivity

Stability: Unstable [] Stable [X]
Conditions To Avoid - Instability: protect from moisture
Incompatibility - Materials To Avoid: strong oxidizing agents
Hazardous Decomposition Or Byproducts: phosphorus oxides
 potassium oxides
Hazardous Polymerization: Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Polymerization: No data available.

11. Toxicological Information

: The toxicological effects of this compound have not been thoroughly studied.
Carcinogenicity/Other Information: No data available.
Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

: Runoff from fire control or dilution water may cause pollution.

13. Disposal Considerations

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

14. Transport Information

LAND TRANSPORT (US DOT)
DOT Proper Shipping Name This substance is considered non-hazardous for transport.
Additional Transport Information: Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Potassium phosphate, Monobasic	7778-77-0	No	No	No	No
2. Ethylenediamine Tetraacetic Acid	60-00-4	No	Yes 5000 LB	No	No
3. Serum Albumin	9048-46-8	No	No	No	No

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Potassium phosphate, Monobasic	7778-77-0	HAP, ODC ()	No	Inventory	No
2. Ethylenediamine Tetraacetic Acid	60-00-4	HAP, ODC ()	No	Inventory	No
3. Serum Albumin	9048-46-8	HAP, ODC ()	No	Inventory	No

16. Other Information

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MATERIAL SAFETY DATA SHEET

Catalase (Control)

Page: 1

Cayman Chemical Company
1180 E. Ellsworth Rd.
Ann Arbor, MI 48108

Printed: 12/18/2009
Revision: 12/16/2009
Supersedes Revision: 09/30/2004
Date Created: 04/16/2003

1. Product and Company Identification

Product Code: 707013
Product Name: Catalase (Control)
Manufacturer Information
Company Name: Cayman Chemical Company
Emergency Contact: Cayman Chemical Company (800)364-9897
Information: Cayman Chemical Company (734)971-3335

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA PEL	ACGIH TLV
1. Catalase (Control)	NA	100.0 %	No data.	No data.

3. Hazards Identification

Emergency Overview: No data available.
Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection
Potential Health Effects (Acute and Chronic): Irritating to the skin, eyes, nose, throat, and respiratory tract.
May be harmful by inhalation, ingestion, or skin absorption.
Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.
May cause eye, skin, or respiratory system irritation.
The toxicological properties of this compound have not been fully evaluated.
Signs and Symptoms Of Exposure: No data available.

4. First Aid Measures

Emergency and First Aid Procedures: If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
If swallowed, wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.
In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After initial flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eyes examined and tested by medical personnel.
In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

5. Fire Fighting Measures

Flash Pt: No data.
Explosive Limits: LEL: No data. UEL: No data.
Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
Flammable Properties and Hazards: No data available.
Extinguishing Media: Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.
Unsuitable Extinguishing Media: No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled: Wear a NIOSH/MSHA approved self-contained breathing apparatus and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
Vacuum or sweep up material and place in disposal container.
Avoid raising dust.
After removal, ventilate contaminated area and flush thoroughly with water.

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Catalase (Control)

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Supercedes Revision: 09/30/2004

Conditions To Avoid - Hazardous Polymerization: No data available.

11. Toxicological Information

: The toxicological effects of this compound have not been thoroughly studied.
Carcinogenicity/Other Information: No data available.
Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

: Runoff from fire control or dilution water may cause pollution.

13. Disposal Considerations

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

14. Transport Information

LAND TRANSPORT (US DOT)
DOT Proper Shipping Name This substance is considered non-hazardous for transport.
Additional Transport Information: Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Catalase (Control)	NA	No	No	No	No

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Catalase (Control)	NA	HAP, ODC ()	No	No	No

16. Other Information

Company Policy or Disclaimer

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MATERIAL SAFETY DATA SHEET

Catalase Formaldehyde Standard

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Cayman Chemical Company
1180 E. Ellsworth Rd.
Ann Arbor, MI 48108

Printed: 01/11/2010
Revision: 12/16/2009
Supersedes Revision: 09/30/2004
Date Created: 04/14/2003

1. Product and Company Identification

Product Code: 707014
Product Name: Catalase Formaldehyde Standard
Manufacturer Information
Company Name: Cayman Chemical Company
Emergency Contact: Cayman Chemical Company (800)364-9897
Information: Cayman Chemical Company (734)971-3335

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA TWA	ACGIH TWA	Other Limits
1. Formaldehyde	50-00-0	12.76 %	0.75 ppm	No data.	No data.
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Formaldehyde	LP8925000	2 ppm (15 min)	No data.	No data.	0.3 ppm

3. Hazards Identification

Emergency Overview: No data available.
Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection
Potential Health Effects (Acute and Chronic): California Prop. 65 carcinogen.
Causes burns.
Irritating to the skin, eyes, nose, throat, and respiratory tract.
Lachrymator.
Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract, eyes, and skin.
May alter genetic material.
May be fatal or cause blindness if swallowed.
May cause allergic skin reaction.
May cause convulsions.
May cause heritable genetic damage.
May cause sensitization by skin contact.
Possible carcinogen.
Pregnant females should avoid exposure to this compound.
Readily absorbed through skin.
The toxicological properties of this compound have not been fully evaluated.
Toxic.
Toxic by inhalation, in contact with skin and if swallowed.
LD 50 / LC 50: Please refer to Section 11.
Signs and Symptoms of Exposure: Exposure can cause: burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, vomiting, chest pains, difficulty breathing, convulsions, and gastrointestinal disturbances.
Inhalation may result in spasm, inflammation, and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema.

4. First Aid Measures

Emergency and First Aid Procedures: If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
Do not give direct mouth-to-mouth if victim ingested or inhaled this substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
If swallowed, induce vomiting by giving two glasses of water or milk and sticking fingers down throat. Never give anything by mouth to an unconscious person. **ANTIDOTE:** (Ingestion) Unless unconscious or convulsing, give large amounts of water or milk to induce vomiting. Get medical

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attention immediately.

In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After initial flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eyes examined and tested by medical personnel.

In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

Note to Physician:

Monitor arterial blood gases and methanol levels after significant ingestion. Hemodialysis may be effective in formaldehyde removal. Use formic acid in urine and formaldehyde in blood or expired air as diagnostic tests.

5. Fire Fighting Measures

Flash Pt:

No data.

Explosive Limits:

LEL: No data.

UEL: No data.

Fire Fighting Instructions:

As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

Flammable Properties and Hazards:

Can release vapors that form explosive mixtures at temperatures at or above the flash point. Combustible liquid.

Container explosion may occur under fire conditions.

Emits toxic fumes under fire conditions.

Flammable liquid.

Vapors are heavier than air.

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

Vapors may form explosive mixture with air.

Hazardous Combustion Products:

formic acid

Extinguishing Media:

Use alcohol-resistant foam, carbon dioxide, or dry chemical spray when fighting fires involving this material.

Unsuitable Extinguishing Media:

No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled:

Wear a NIOSH/MSHA approved self-contained breathing apparatus and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).

Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

After removal, ventilate contaminated area and flush thoroughly with water.

7. Handling and Storage

Hazard Label Information:

Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation.

Wash thoroughly after handling.

Precautions To Be Taken in Handling:

Avoid breathing (dust, vapor, mist, gas).

Avoid contact with eyes, skin, and clothing.

Avoid prolonged or repeated exposure.

Do not reuse this container.

Pregnant females should avoid exposure.

Use with adequate ventilation.

Wash thoroughly after handling.

Precautions To Be Taken in Storing:

Keep away from heat and flame.

Keep tightly closed.

Store at correct temperature.

8. Exposure Controls/Personal Protection

Protective Equipment Summary - Hazard Label Information:

Eye wash station in work area Lab coat Compatible chemical-resistant gloves Safety glasses Safety shower in work area Vent Hood

Respiratory Equipment (Specify Type):

No data available.

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Eye Protection:	Safety glasses
Protective Gloves:	Compatible chemical-resistant gloves
Other Protective Clothing:	Lab coat
Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
Work/Hygienic/Maintenance Practices:	Do not take internally. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Wash thoroughly after handling.

9. Physical and Chemical Properties

Physical States:	[] Gas [X] Liquid [] Solid
Melting Point:	No data.
Boiling Point:	No data.
Autoignition Pt:	No data.
Flash Pt:	No data.
Explosive Limits:	LEL: No data. UEL: No data.
Specific Gravity (Water = 1):	No data.
Bulk density:	No data.
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Evaporation Rate (vs Butyl Acetate=1):	No data.
Solubility in Water:	No data.
Percent Volatile:	No data.
Heat Value:	No data.
Particle Size:	No data.
Corrosion Rate:	No data.
pH:	No data.
Appearance and Odor:	A clear, colorless solution

10. Stability and Reactivity

Stability:	Unstable [] Stable [X]
Conditions To Avoid - Instability:	No data available.
Incompatibility - Materials To Avoid:	alkali metals magnesium carbonate nitrogen dioxide nitromethane perchloric acid peroxides strong oxidizing agents
Hazardous Decomposition Or Byproducts:	carbon dioxide carbon monoxide
Hazardous Polymerization:	Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Polymerization:	Nonhazardous polymerization may occur at low temperatures, forming paraformaldehyde, a white solid.

11. Toxicological Information

:	The toxicological effects of this compound have not been thoroughly studied. Formaldehyde - Toxicity Data: Oral LDLo (wmn): 108mg/kg, Oral LD50 (rat): 100 mg/kg; Skin LD50 (rabbit): 270 uL/kg Irritation Data: Eyes (rabbit): 750ug Severe, Inhalation (rat): LC50: 203 mg/m3
Chronic Toxicological Effects:	Formaldehyde - Investigated as a tumorigen, mutagen, and reproductive effector. Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information.

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Carcinogenicity/Other Information: This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP or EPA classification.

Carcinogenicity: NTP? Unknown IARC Monographs? Unknown OSHA Regulated? Unknown

12. Ecological Information

: Runoff from fire control or dilution water may cause pollution.

13. Disposal Considerations

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

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name Aviation regulated liquid, n.o.s. (Formaldehyde solution with >10% but <25% formaldehyde)
DOT Hazard Class: 9
DOT Hazard Label: Environmentally hazardous substances
UN/NA Number: 3334
Packing Group: III

AIR TRANSPORT (ICAO/IATA)

ICAO/IATA Proper Shipping Name Aviation regulated liquid, n.o.s. (Formaldehyde solution with >10% but <25% formaldehyde)
UN Number: 3334
Packing Group: III
IATA Classification: 9

Additional Transport Information: According to IATA Regulations, this product ships as an excepted quantity.
 Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Formaldehyde	50-00-0	Yes 500 LB	Yes 100 LB	Yes	Yes

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Formaldehyde	50-00-0	HAP, ODC ()	Yes	Inventory	Yes

16. Other Information

Company Policy or Disclaimer

For research use only, not for human or veterinary clinical use.

DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

MATERIAL SAFETY DATA SHEET

Catalase Potassium Hydroxide

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Cayman Chemical Company
1180 E. Ellsworth Rd.
Ann Arbor, MI 48108

Printed: 12/18/2009
Revision: 12/16/2009
Supersedes Revision: 10/19/2004
Date Created: 04/16/2002

1. Product and Company Identification

Product Code: 707015
Product Name: Catalase Potassium Hydroxide
Manufacturer Information
Company Name: Cayman Chemical Company
Emergency Contact: Cayman Chemical Company (800)364-9897
Information: Cayman Chemical Company (734)971-3335
CAS Number: 1310-58-3
RTECS #: TT2100000
Synonyms: KOH

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA PEL	ACGIH TLV	Other Limits
1. Potassium hydroxide	1310-58-3	100.0 %	No data.	No data.	No data.
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Potassium hydroxide	TT2100000	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview: No data available.
Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection
Potential Health Effects (Acute and Chronic): Causes severe burns.
Corrosive.
Harmful if swallowed, inhaled, or absorbed through the skin.
Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract, eyes, and skin.
Prolonged or repeated eye contact may cause conjunctivitis.
Prolonged or repeated skin contact may cause dermatitis.
Toxic if swallowed.
LD 50 / LC 50: Please refer to Section 11.
Signs and Symptoms Of Exposure: Causes severe digestive tract burns with abdominal pain, vomiting, and possible death.
Exposure can cause: burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.
Inhalation may result in spasm, inflammation, and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema.
Irritating to the skin, eyes, nose, throat, and respiratory tract.
May cause circulatory system failure.
May cause perforation of the digestive tract.

4. First Aid Measures

Emergency and First Aid Procedures: If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
Do not give direct mouth-to-mouth if victim ingested or inhaled this substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
If swallowed, DO NOT INDUCE VOMITING! Give large quantities of milk if available. Never give anything by mouth to an unconscious person. Get medical attention immediately.
In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After initial flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eyes examined and tested by medical personnel.
In case of skin contact, immediately wash skin with soap and plenty of water. Remove

Catalase Potassium Hydroxide

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

5. Fire Fighting Measures

Flash Pt:	No data.
Explosive Limits:	LEL: No data. UEL: No data.
Fire Fighting Instructions:	As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes. Exothermic in contact with water.
Flammable Properties and Hazards:	Emits toxic fumes under fire conditions.
Hazardous Combustion Products:	May react with metals, releasing flammable hydrogen gas.
Extinguishing Media:	Use appropriate foam, carbon dioxide, or dry chemical powder when fighting fires involving this material. Use extinguishing media appropriate to surrounding fire conditions. DO NOT USE WATER.
Unsuitable Extinguishing Media:	No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled:	Wear a NIOSH/MSHA approved self-contained breathing apparatus and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves). Vacuum or sweep up material and place in disposal container. Avoid raising dust. After removal, ventilate contaminated area and flush thoroughly with water.
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7. Handling and Storage

Hazard Label Information:	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling.
Precautions To Be Taken in Handling:	Avoid prolonged or repeated exposure. Do not breath (dust, vapor, mist, gas). Do not get in eyes, on skin or clothing. Do not reuse this container. Use with adequate ventilation. Very hygroscopic. Wash thoroughly after handling. Water reactive.
Precautions To Be Taken in Storing:	Keep tightly closed. Store at correct temperature.
Other Precautions:	Air sensitive.

8. Exposure Controls/Personal Protection

Protective Equipment Summary - Hazard Label Information:	Eye wash station in work area Lab coat Compatible chemical-resistant gloves Safety glasses Safety shower in work area Vent Hood
Respiratory Equipment (Specify Type):	No data available.
Eye Protection:	Safety glasses
Protective Gloves:	Compatible chemical-resistant gloves
Other Protective Clothing:	Lab coat
Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
Work/Hygienic/Maintenance Practices:	Do not take internally. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Wash thoroughly after handling.

Catalase Potassium Hydroxide

Printed: 12/18/2009

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Supercedes Revision: 10/19/2004

9. Physical and Chemical Properties

Physical States:	[] Gas [] Liquid [X] Solid
Melting Point:	361.00 C
Boiling Point:	No data.
Autoignition Pt:	No data.
Flash Pt:	No data.
Explosive Limits:	LEL: No data. UEL: No data.
Specific Gravity (Water = 1):	No data.
Bulk density:	No data.
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Evaporation Rate (vs Butyl Acetate=1):	No data.
Solubility in Water:	No data.
Percent Volatile:	No data.
Heat Value:	No data.
Particle Size:	No data.
Corrosion Rate:	No data.
Formula:	KOH
Molecular Weight:	56.11
pH:	No data.
Appearance and Odor:	Solid white pellets

10. Stability and Reactivity

Stability:	Unstable [] Stable [X]
Conditions To Avoid - Instability:	absorbs carbon dioxide from air. do not heat above melting point. protect from moisture. with limited amounts of water violent boiling may occur.
Incompatibility - Materials To Avoid:	acids aluminum copper magnesium metals nitro compounds organic materials tin zinc water
Hazardous Decomposition Or Byproducts:	carbon monoxide hydrogen gas potassium oxides
Hazardous Polymerization:	Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Polymerization:	No data available.

11. Toxicological Information

:	The toxicological effects of this compound have not been thoroughly studied. Potassium Hydroxide - Toxicity Data: Oral LD50 (rat): 273 mg/kg; Irritation Data: Skin (rabbit): 50 mg/24hr severe;
Chronic Toxicological Effects:	Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information. Potassium Hydroxide RTECS Number: TT2100000

MATERIAL SAFETY DATA SHEET

Catalase Potassium Hydroxide

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Printed: 12/18/2009

Revision: 12/16/2009

Supercedes Revision: 10/19/2004

Carcinogenicity/Other Information: No data available.
Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

: Runoff from fire control or dilution water may cause pollution.

13. Disposal Considerations

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

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name Potassium hydroxide, solid
DOT Hazard Class: 8
DOT Hazard Label: CORROSIVE
UN/NA Number: 1813
Packing Group: II

AIR TRANSPORT (ICAO/IATA)

ICAO/IATA Proper Shipping Name Potassium hydroxide, solid
UN Number: 1813
Packing Group: II
IATA Classification: 8

Additional Transport Information: According to IATA Regulations, this product ships as an excepted quantity.
Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Potassium hydroxide	1310-58-3	No	Yes 1000 LB	No	No

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Potassium hydroxide	1310-58-3	HAP, ODC ()	No	Inventory	No

16. Other Information

Company Policy or Disclaimer

For research use only, not for human or veterinary clinical use.

DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

MATERIAL SAFETY DATA SHEET

Catalase Methanol

Page: 1

Cayman Chemical Company
1180 E. Ellsworth Rd.
Ann Arbor, MI 48108

Printed: 12/18/2009
Revision: 12/16/2009
Supersedes Revision: 09/30/2004
Date Created: 04/14/2003

1. Product and Company Identification

Product Code: 707016
Product Name: Catalase Methanol
Manufacturer Information
Company Name: Cayman Chemical Company
Emergency Contact: Cayman Chemical Company (800)364-9897
Information: Cayman Chemical Company (734)971-3335
CAS Number: 67-56-1
RTECS #: PC1400000
Synonyms: Methyl alcohol

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA PEL	ACGIH TLV	Other Limits
1. Methanol	67-56-1	100.0 %	8H TWA:200ppm (260 mg/m3)	No data.	No data.
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Methanol	PC1400000	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview: No data available.
Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection
Potential Health Effects (Acute and Chronic): Cannot be made nonpoisonous.
Extremely irritating to the eyes and may cause severe damage including blindness.
Gas, vapor, mist or dust concentrations may be harmful if inhaled. High concentrations may be fatal.
Irritant.
Material is irritating to the mucous membranes and upper respiratory tract.
May be fatal or cause blindness if swallowed.
May be harmful by inhalation, ingestion, or skin absorption.
Pregnant females should avoid exposure to this compound.
Repeated exposure may cause skin dryness or cracking.
The toxicological properties of this compound have not been fully evaluated.
Toxic if swallowed.
Signs and Symptoms Of Exposure: Ingestion can cause: Nausea, headache, vomiting, gastrointestinal disturbances, dizziness, weakness, confusion, drowsiness and unconsciousness.
Inhalation may cause headache, drowsiness, nausea, vomiting, blurred vision, blindness, coma and death.
Irritating to the skin, eyes, nose, throat, and respiratory tract.
Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

4. First Aid Measures

Emergency and First Aid Procedures: If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
Do not give direct mouth-to-mouth if victim ingested or inhaled this substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
If swallowed, wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.
In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After initial

flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eyes examined and tested by medical personnel.
 In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

5. Fire Fighting Measures

Flash Pt: 12.00 C Method Used: Closed Cup
Explosive Limits: LEL: 6% at 25.0 C UEL: 36% at 25.0 C
Autoignition Pt: 464.00 C
Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
 Flammable liquid and vapor.
Flammable Properties and Hazards: 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.
 Flammable Liquid.
 Sensitive to static discharge.
 Vapors can travel to a source of ignition and flash back.
Extinguishing Media: Use appropriate foam, carbon dioxide, or dry chemical powder when fighting fires involving this material.
 Water may be ineffective.
Unsuitable Extinguishing Media: No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled: Wear a NIOSH/MSHA approved self-contained breathing apparatus and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
 Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.
 After removal, ventilate contaminated area and flush thoroughly with water.
 Avoid release into the environment - very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

7. Handling and Storage

Hazard Label Information: Avoid contact with skin and eyes. Do not reuse this container. Provide adequate ventilation.
 Wash thoroughly after handling.
Precautions To Be Taken in Handling: Avoid breathing (dust, vapor, mist, gas).
 Avoid contact with eyes, skin, and clothing.
 Avoid prolonged or repeated exposure.
 Do not reuse this container.
 Keep away from sources of ignition.
 Pregnant females should avoid exposure to this compound.
 Use with adequate ventilation.
 Wash thoroughly after handling.
Precautions To Be Taken in Storing: Store at correct temperature.

8. Exposure Controls/Personal Protection

Protective Equipment Summary - Hazard Label Information: Eye wash station in work area Lab coat Compatible chemical-resistant gloves Safety glasses Safety shower in work area Vent Hood
Respiratory Equipment (Specify Type): No data available.
Eye Protection: Safety glasses
Protective Gloves: Compatible chemical-resistant gloves
Other Protective Clothing: Lab coat
Engineering Controls (Ventilation etc.): Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Work/Hygienic/Maintenance Practices: Do not take internally.
 Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
 Wash thoroughly after handling.

9. Physical and Chemical Properties

Physical States: [] Gas [X] Liquid [] Solid
Melting Point: -98.00 C
Boiling Point: 64.50 C
Autoignition Pt: 464.00 C
Flash Pt: 12.00 C Method Used: Closed Cup
Explosive Limits: LEL: 6% at 25.0 C UEL: 36% at 25.0 C
Specific Gravity (Water = 1): No data.
Bulk density: No data.
Vapor Pressure (vs. Air or mm Hg): 97 MM_HG at 20.0 C
Vapor Density (vs. Air = 1): No data.
Evaporation Rate (vs Butyl Acetate=1): No data.
Solubility in Water: No data.
Percent Volatile: No data.
Heat Value: No data.
Particle Size: No data.
Corrosion Rate: No data.
pH: No data.
Appearance and Odor: A clear, colorless solution

10. Stability and Reactivity

Stability: Unstable [] Stable [X]
Conditions To Avoid - Instability: protect from flames
 protect from heat
 protect from ignition sources
Incompatibility - Materials To Avoid: may react with metallic aluminum and generate hydrogen gas
 nitrates
 perchlorates
 strong oxidizing agents
 sulfuric acid
 will attack some forms of plastics, rubber, and coatings
Hazardous Decomposition Or Byproducts: carbon dioxide
 carbon monoxide
 formaldehyde
Hazardous Polymerization: Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Polymerization: No data available.

11. Toxicological Information

Chronic Toxicological Effects: The toxicological effects of this compound have not been thoroughly studied.
 Methanol - Toxicity Data: Oral LD50 (rat): 5628 mg/kg; Inhalation LC50 (rat): 64000 ppm/4H;
 Skin LD50 (rabbit): 15800 mg/kg;
 Irritation Data: Skin (rabbit): 20 mg/24hr moderate; Eye (rabbit) 100 mg/24hr moderate;
 Methanol - Investigated as a mutagen and reproductive effector.
 Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here.
 See actual entry in RTECS for complete information.
 Methanol RTECS Number: PC1400000

Catalase Methanol

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Supercedes Revision: 09/30/2004

Carcinogenicity/Other Information: No data available.
Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

: Avoid release into the environment - very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 Runoff from fire control or dilution water may cause pollution.

13. Disposal Considerations

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

14. Transport Information

LAND TRANSPORT (US DOT)
DOT Proper Shipping Name Methanol
DOT Hazard Class: 3
DOT Hazard Label: FLAMMABLE LIQUID
UN/NA Number: 1230
Packing Group: II

AIR TRANSPORT (ICAO/IATA)
ICAO/IATA Proper Shipping Name Methanol
UN Number: 1230
Packing Group: II
IATA Classification: 3,6.1

Additional Transport Information: According to IATA Regulations, this product ships as an excepted quantity.
 Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Methanol	67-56-1	No	Yes 5000 LB	Yes	No

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Methanol	67-56-1	HAP, ODC ()	No	Inventory	No

Regulatory Information: This product is subject to SARA Section 313 Reporting Requirements.

16. Other Information

Company Policy or Disclaimer

For research use only, not for human or veterinary clinical use.

DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

MATERIAL SAFETY DATA SHEET

Catalase Purpald (Chromagen)

Page: 1

Cayman Chemical Company
1180 E. Ellsworth Rd.
Ann Arbor, MI 48108

Printed: 12/18/2009
Revision: 12/16/2009
Supersedes Revision: 06/03/2009
Date Created: 02/07/1996

1. Product and Company Identification

Product Code: 707017
Product Name: Catalase Purpald (Chromagen)
Manufacturer Information
Company Name: Cayman Chemical Company
Emergency Contact: Cayman Chemical Company (800)364-9897
Information: Cayman Chemical Company (734)971-3335

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA PEL	ACGIH TLV	Other Limits
1. Purpald (4-amino-3-hydrazino-5-mercapto-1,2,4-triazole)	1750-12-5	0.0 -5.0 %	No data.	No data.	No data.
2. Hydrochloric acid	7647-01-0	1.0 -10.0 %	CL:5ppm (7 mg/m3)	No data.	No data.
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Purpald (4-amino-3-hydrazino-5-mercapto-1,2,4-triazole)	NA	No data.	No data.	No data.	No data.
2. Hydrochloric acid	MW4025000	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview: No data available.

Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection

Potential Health Effects (Acute and Chronic): Causes severe burns.
Corrosive.
Long-term exposure to mist or vapors may cause erosion of teeth.
Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract, eyes, and skin.
Material is irritating to the mucous membranes and upper respiratory tract.
Material is irritating to the skin, eyes, nose, and throat.
May be fatal if inhaled or swallowed.
May be harmful by skin absorption.
May cause eye, skin, or respiratory system irritation.
The toxicological properties of this compound have not been fully evaluated.

LD 50 / LC 50: Please refer to Section 11.

Signs and Symptoms Of Exposure: Inhalation may cause coughing, choking, inflammation of the nose, throat, and upper respiratory tract, and in severe cases, pulmonary edema, circulatory failure and death.
Swallowing hydrochloric acid can cause immediate pain and burns of the mouth, throat, esophagus, and gastrointestinal tract. May cause nausea, vomiting and diarrhea.
Skin contact can cause redness, pain, and severe skin burns. Concentrated solutions cause deep ulcers and discolor skin.

Medical Conditions Generally Aggravated By Exposure: Persons with pre-existing skin disorders or eye disease may be more susceptible to the effects of this substance.

4. First Aid Measures

Emergency and First Aid Procedures: If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
Do not give direct mouth-to-mouth if victim ingested or inhaled this substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
If swallowed, DO NOT INDUCE VOMITING! Give large quantities of milk if available. Never

Catalase Purpald (Chromagen)

give anything by mouth to an unconscious person. Get medical attention immediately.
 In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After initial flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eyes examined and tested by medical personnel.
 In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

5. Fire Fighting Measures

Flash Pt: No data. Method Used: Unknown
Explosive Limits: LEL: No data. UEL: No data.
Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
Flammable Properties and Hazards: Containers may burst when heated.
 Emits toxic fumes under fire conditions.
 Extreme heat or contact with metals can release flammable hydrogen gas.
Extinguishing Media: Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.
Unsuitable Extinguishing Media: No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled: Wear a NIOSH/MSHA approved self-contained breathing apparatus and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
 Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.
 After removal, ventilate contaminated area and flush thoroughly with water.

7. Handling and Storage

Hazard Label Information: Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation.
 Wash thoroughly after handling.
Precautions To Be Taken in Handling: Avoid breathing (dust, vapor, mist, gas).
 Avoid contact with eyes, skin, and clothing.
 Avoid prolonged or repeated exposure.
 Do not reuse this container.
 Use with adequate ventilation.
 Wash thoroughly after handling.
Precautions To Be Taken in Storing: Light sensitive.
 Store at correct temperature.
Other Precautions: Protect from sunlight.
 Protect from heat and incompatible materials.

8. Exposure Controls/Personal Protection

Protective Equipment Summary - Hazard Label Information: Eye wash station in work area Lab coat Compatible chemical-resistant gloves Safety glasses Safety shower in work area Vent Hood
Respiratory Equipment (Specify Type): Government approved respirator as conditions warrant.
Eye Protection: Safety glasses and/or a full face shield where splashing is possible
Protective Gloves: Compatible chemical-resistant gloves
Other Protective Clothing: Lab coat
Engineering Controls (Ventilation etc.): Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
Work/Hygienic/Maintenance Practices: Do not take internally.
 Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
 Wash thoroughly after handling.

MATERIAL SAFETY DATA SHEET

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Printed: 12/18/2009

Revision: 12/16/2009

Supercedes Revision: 06/03/2009

9. Physical and Chemical Properties

Physical States:	[] Gas [X] Liquid [] Solid
Melting Point:	No data.
Boiling Point:	No data.
Autoignition Pt:	No data.
Flash Pt:	No data. Method Used: Unknown
Explosive Limits:	LEL: No data. UEL: No data.
Specific Gravity (Water = 1):	No data.
Bulk density:	No data.
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Evaporation Rate (vs Butyl Acetate=1):	No data.
Solubility in Water:	No data.
Percent Volatile:	No data.
Heat Value:	No data.
Particle Size:	No data.
Corrosion Rate:	No data.
pH:	No data.
Appearance and Odor:	A clear, colorless solution

10. Stability and Reactivity

Stability:	Unstable [] Stable [X]
Conditions To Avoid - Instability:	protect from heat protect from light
Incompatibility - Materials To Avoid:	amines carbonates cyanides formaldehyde hydroxides other alkaline materials metal oxides metals strong bases sulfides sulfites
Hazardous Decomposition Or Byproducts:	hydrogen chlorine fumes hydrogen gas
Hazardous Polymerization:	Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Polymerization:	No data available.

11. Toxicological Information

:	The toxicological effects of this compound have not been thoroughly studied. Hydrochloric acid - Toxicity Data: Oral LD50 (rabbit): 900 mg/kg; Inhalation LC50 (rat): 3124 ppm/1H;
Chronic Toxicological Effects:	Hydrochloric acid has been investigated as a tumorigen, mutagen, and reproductive effector. Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information. Hydrochloric acid RTECS Number: MW4025000
Carcinogenicity/Other Information:	No data available.
Carcinogenicity:	NTP? No IARC Monographs? No OSHA Regulated? No

MATERIAL SAFETY DATA SHEET

Catalase Purpald (Chromagen)

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 Supercedes Revision: 06/03/2009

12. Ecological Information

: Avoid release into the environment - material is expected to be toxic to aquatic life.
 Runoff from fire control or dilution water may cause pollution.

13. Disposal Considerations

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

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name: Hydrochloric acid solution
DOT Hazard Class: 8
DOT Hazard Label: CORROSIVE
UN/NA Number: UN1789
Packing Group: III

AIR TRANSPORT (ICAO/IATA)

ICAO/IATA Proper Shipping Name: Hydrochloric acid solution
UN Number: 1789
Packing Group: III
IATA Classification: 8

Additional Transport Information: According to IATA Regulations, this product ships as an excepted quantity.
 Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Purpald (4-amino-3-hydrazino-5-mercapto-1,2,4-triazole)	1750-12-5	No	No	No	No
2. Hydrochloric acid	7647-01-0	Yes 500 LB	Yes 5000 LB	Yes	No

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Purpald (4-amino-3-hydrazino-5-mercapto-1,2,4-triazole)	1750-12-5	HAP, ODC ()	No	Inventory	No
2. Hydrochloric acid	7647-01-0	HAP, ODC ()	No	Inventory	No

16. Other Information

Company Policy or Disclaimer

For research use only, not for human or veterinary clinical use.

DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

MATERIAL SAFETY DATA SHEET

Catalase Potassium Periodate

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Cayman Chemical Company
1180 E. Ellsworth Rd.
Ann Arbor, MI 48108

Printed: 01/11/2010
Revision: 01/11/2010
Supersedes Revision: 12/16/2009
Date Created: 08/07/2001

1. Product and Company Identification

Product Code: 707018
Product Name: Catalase Potassium Periodate
Manufacturer Information
Company Name: Cayman Chemical Company
Emergency Contact: Cayman Chemical Company (800)364-9897
Information: Cayman Chemical Company (734)971-3335

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA PEL	ACGIH TLV	Other Limits
1. Potassium periodate	7790-21-8	1.0 -10.0 %	No data.	No data.	No data.
2. Potassium hydroxide	1310-58-3	0.0 -5.0 %	No data.	No data.	No data.
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Potassium periodate	NA	No data.	No data.	No data.	No data.
2. Potassium hydroxide	TT2100000	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview: No data available.
Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection
Potential Health Effects (Acute and Chronic): Material may be irritating to the mucous membranes and upper respiratory tract.
May be harmful by inhalation, ingestion, or skin absorption.
May cause eye, skin, or respiratory system irritation.
The toxicological properties of this compound have not been fully evaluated.
LD 50 / LC 50: Please refer to Section 11.
Signs and Symptoms Of Exposure: No data available.

4. First Aid Measures

Emergency and First Aid Procedures: If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
Do not give direct mouth-to-mouth if victim ingested or inhaled this substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
If swallowed, wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.
In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After initial flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eyes examined and tested by medical personnel.
In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

5. Fire Fighting Measures

Flash Pt: No data.
Explosive Limits: LEL: No data. UEL: No data.
Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

Catalase Potassium Periodate

Flammable Properties and Hazards:	No data available.
Extinguishing Media:	Use appropriate foam, carbon dioxide, or dry chemical powder when fighting fires involving this material.
Unsuitable Extinguishing Media:	No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled:	Wear a NIOSH/MSHA approved self-contained breathing apparatus and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves). Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. After removal, ventilate contaminated area and flush thoroughly with water.
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7. Handling and Storage

Hazard Label Information:	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling.
Precautions To Be Taken in Handling:	Avoid breathing (dust, vapor, mist, gas). Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling.
Precautions To Be Taken in Storing:	Store at correct temperature.

8. Exposure Controls/Personal Protection

Protective Equipment Summary - Hazard Label Information:	Eye wash station in work area Lab coat Compatible chemical-resistant gloves Safety glasses Safety shower in work area Vent Hood
Respiratory Equipment (Specify Type):	Government approved respirator as conditions warrant.
Eye Protection:	Safety glasses
Protective Gloves:	Compatible chemical-resistant gloves
Other Protective Clothing:	Lab coat
Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
Work/Hygienic/Maintenance Practices:	Do not take internally. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Wash thoroughly after handling.

9. Physical and Chemical Properties

Physical States:	<input type="checkbox"/> Gas <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Solid
Melting Point:	No data.
Boiling Point:	No data.
Autoignition Pt:	No data.
Flash Pt:	No data.
Explosive Limits:	LEL: No data. UEL: No data.
Specific Gravity (Water = 1):	No data.
Bulk density:	No data.
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Evaporation Rate (vs Butyl Acetate=1):	No data.
Solubility in Water:	No data.
Percent Volatile:	No data.
Heat Value:	No data.
Particle Size:	No data.

Catalase Potassium Periodate

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Supercedes Revision: 12/16/2009

Corrosion Rate: No data.
pH: No data.
Appearance and Odor: A clear, colorless solution

10. Stability and Reactivity

Stability: Unstable [] Stable [X]
Conditions To Avoid - Instability: No data available.
Incompatibility - Materials To Avoid: No data available.
Hazardous Decomposition Or Byproducts: No data available.
Hazardous Polymerization: Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Polymerization: No data available.

11. Toxicological Information

: The toxicological effects of this compound have not been thoroughly studied.
Carcinogenicity/Other Information: No data available.
Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

: Runoff from fire control or dilution water may cause pollution.

13. Disposal Considerations

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

14. Transport Information

LAND TRANSPORT (US DOT)
DOT Proper Shipping Name This substance is considered non-hazardous for transport.
Additional Transport Information: Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Potassium periodate	7790-21-8	No	No	No	No
2. Potassium hydroxide	1310-58-3	No	Yes 1000 LB	No	No

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Potassium periodate	7790-21-8	HAP, ODC ()	No	Inventory	No
2. Potassium hydroxide	1310-58-3	HAP, ODC ()	No	Inventory	No

16. Other Information

Company Policy or Disclaimer

For research use only, not for human or veterinary clinical use.

DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.