

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



1. Identification of the Substance/Mixture and of the Company/Undertaking

Product Code: 600044
Product Name: Lipid Droplets Assay Wash Solution
Intended Use: For research use only, not for human or veterinary use.

Manufacturer Information

Company Name: Cayman Chemical Company
Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
Alternate Emergency Contact: CHEMTREC Outside USA and Canada: +1 (703)527-3887
Information: Cayman Chemical Company +1 (734)971-3335
Web site address: www.caymanchem.com

2. Hazards Identification

GHS Classification	Placard	Key word	GHS Hazard
Flammable Liquids, Category 2	Flame	Danger	Highly flammable liquid and vapor
Serious Eye Damage/Eye Irritation, Category 2A	Exclamation point	Warning	Causes serious eye irritation
Target Organ Systemic Toxicity (single exposure), Category 3	Exclamation point	Warning	May cause respiratory irritation, or may cause drowsiness and dizziness
Skin Corrosion/Irritation, Category 3	none	Warning	Causes mild skin irritation

GHS Hazard Phrases:
 H225: Highly flammable liquid and vapor
 H319: Causes serious eye irritation
 H336: May cause drowsiness or dizziness.
 H316: Causes mild skin irritation.

GHS Precaution Phrases:
 P210: Keep away from {heat/sparks/open flames/hot surfaces}. - No smoking.
 P280: Wear protective gloves/clothing and eye/face protection as specified by the manufacturer/supplier or the competent authority.
 P264: Wash hands thoroughly after handling.
 P261: Avoid breathing dust/fume/gas/mist/vapours/spray.

GHS Response Phrases:
 P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
 P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P337+313: If eye irritation persists, get medical advice/attention.
 P309+311: Call a POISON CENTER or doctor/physician if exposed or you feel unwell.
 P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P332+313: If skin irritation occurs, get medical advice/attention.

GHS Storage and Disposal Phrases:
 Please refer to Section 7 for Storage and Section 13 for Disposal information.

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

Potential Health Effects (Acute and Chronic):
 Causes eye and respiratory system irritation.
 Causes mild skin irritation.
 Material is irritating to the mucous membranes and upper respiratory tract.
 May be harmful by inhalation, ingestion, or skin absorption.
 Vapors may cause drowsiness and dizziness.

Target Organs:	Cardiovascular system, Eyes, Gastrointestinal System, Kidneys, Respiratory system, Nervous system, Liver, Skin.
LD 50 / LC 50:	Please refer to Section 11.
Signs and Symptoms Of Exposure:	Overexposure can cause: headache, dizziness, tiredness, narcosis, and nausea. Repeated exposure may cause dryness and cracking of the skin. To the best of our knowledge, the toxicological properties have not been thoroughly investigated.
Medical Conditions Generally Aggravated By Exposure:	No data available.

3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#	Risk Phrases	RTECS #
1. 2-Propanol	67-63-0	55.0 -75.0 %	200-661-7	R11-36-67	NT8050000
2. Water	7732-18-5	25.0 -45.0 %	231-791-2	No phrases apply.	ZC0110000

4. First Aid Measures

Emergency and First Aid Procedures:	
In Case of Inhalation:	Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
In Case of Skin Contact:	Immediately wash skin with soap and plenty of water for at least 20 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.
In Case of Eye Contact:	Hold eyelids apart and flush eyes with plenty of water for at least 20 minutes. Have eyes examined and tested by medical personnel.
In Case of Ingestion:	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.
Indication of any immediate medical attention and special treatment needed:	No data available.

5. Fire Fighting Measures

Suitable Extinguishing Media:	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray. Use water spray to cool fire-exposed containers.
Unsuitable Extinguishing Media:	A solid water stream may be inefficient.
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. Sensitive to static discharge. Vapors can travel to a source of ignition and flash back.
Flash Pt:	11.70 C Method Used: Closed Cup
Autoignition Pt:	455.60 C
Explosive Limits:	LEL: 2.5% UEL: 12.7%
Hazardous Combustion Products:	No data available.
Fire Fighting Instructions:	As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes. Note: Flammable as diluted in isopropanol.

6. Accidental Release Measures

Protective Precautions, Protective Equipment and Emergency Procedures:	Avoid breathing vapors and provide adequate ventilation. As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
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Environmental Precautions:	Take steps to avoid release into the environment, if safe to do so.
Steps To Be Taken In Case Material Is Released Or Spilled:	Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

7. Handling and Storage

Precautions To Be Taken in Handling:	Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure.
Precautions To Be Taken in Storing:	Keep container tightly closed. Store in accordance with information listed on the product insert.
Hazard Label Information:	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling.

8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TWA	Other Limits
1. 2-Propanol	67-63-0	PEL: 400 ppm	TLV: 200 ppm STEL: 400 ppm	No data.
2. Water	7732-18-5	No data.	No data.	No data.
Hazardous Components (Chemical Name)	CAS #	Britain EH40	France VL	Europe
1. 2-Propanol	67-63-0	TWA: 999 mg/m3 (400 ppm) STEL: 1250 mg/m3 (500 ppm)	STEL: 980 mg/m3 (400 ppm)	No data.
2. Water	7732-18-5	No data.	No data.	No data.

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

9. Physical and Chemical Properties

Information on Basic Physical and Chemical Properties	
Physical States:	<input type="checkbox"/> Gas <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Solid
Appearance and Odor:	Solution
Melting Point:	-88.50 C
Boiling Point:	82.50 C
Flash Pt:	11.70 C Method Used: Closed Cup
Evaporation Rate:	No data.
Explosive Limits:	LEL: 2.5% UEL: 12.7%
Vapor Pressure (vs. Air or mm Hg):	33 MM_HG at 20.0 C
Vapor Density (vs. Air = 1):	No data.
Specific Gravity (Water = 1):	No data.

Density:	0.785 G/ML at 20.0 C
Solubility in Water:	No data.
Autoignition Pt:	455.60 C
Explosive Properties:	No data available.
Oxidizing Properties:	No data available.
Other Information	
Percent Volatile:	No data.

10. Stability and Reactivity

Reactivity:	No data available.
Stability:	Unstable [] Stable [X]
Stability Note(s):	Stable if stored in accordance with information listed on the product insert.
Conditions To Avoid:	heat, flames and sparks
Polymerization:	Will occur [] Will not occur [X]
Incompatibility - Materials To Avoid:	acetaldehyde acid anhydrides acids aluminum chlorine ethylene oxide halogenated compounds isocyanates oxidizing agents
Hazardous Decomposition Or Byproducts:	carbon dioxide carbon monoxide

11. Toxicological Information

Toxicological Information:	The toxicological effects of this product have not been thoroughly studied.
Chronic Toxicological Effects:	2-Propanol - Toxicity Data: Oral LD50 (rat): 5,045 mg/kg; Oral LD50 (mouse): 3,600 mg/kg; Oral LD50 (rabbit): 6,410 mg/kg; 2-Propanol - Irritation Data: Eyes (rabbit): 100 mg (24 h) moderate; Skin (rabbit): 500 mg mild; 2-Propanol - Investigated as a mutagen, reproductive effector, and tumorigen. Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information. 2-Propanol RTECS Number: NT8050000
Carcinogenicity/Other Information:	IARC: Group 3: Not classifiable as to its carcinogenicity to humans (2-Propanol)

Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
1. 2-Propanol	67-63-0	n.a.	3	A4	n.a.
2. Water	7732-18-5	n.a.	n.a.	n.a.	n.a.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

General Ecological Information:	Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.
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13. Disposal Considerations

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

14. Transport Information

Globally Harmonized System of Classification and Labelling

Flammable Liquids, Category 2 - Danger! Highly flammable liquid and vapor
 Serious Eye Damage/Eye Irritation, Category 2A - Warning! Causes serious eye irritation
 Target Organ Systemic Toxicity (single exposure), Category 3 - Warning! May cause respiratory irritation, or may cause drowsiness and dizziness
 Skin Corrosion/Irritation, Category 3 - Warning! Causes mild skin irritation

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name: Isopropanol Solution
DOT Hazard Class: 3
DOT Hazard Label: FLAMMABLE LIQUID
UN/NA Number: 1219
Packing Group: II

LAND TRANSPORT (European ADR/RID)

ADR/RID Shipping Name: Isopropanol Solution
UN Number: 1219
Hazard Class: 3 - FLAMMABLE LIQUID
Packing Group: II

AIR TRANSPORT (ICAO/IATA)

ICAO/IATA Shipping Name: Isopropanol Solution
UN Number: 1219
Hazard Class: 3 - FLAMMABLE LIQUID
Packing Group: II
IATA Classification: 3

Additional Transport Information: Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

European Community Hazard Symbol codes: F: Highly Flammable; Xi: Irritant

European Community Risk and Safety Phrases

R11 - Highly flammable.
 R36 - Irritating to eyes.
 R67 - Vapours may cause drowsiness and dizziness
 S16 - Keep away from sources of ignition.
 S24/25 - Avoid contact with skin and eyes.
 S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. 2-Propanol	67-63-0	No	No	Yes	No
2. Water	7732-18-5	No	No	No	No

Other US EPA or State Lists

Hazardous Components (Chemical Name)	CAS #	CAA HAP,ODC	CWA NPDES	TSCA	CA PROP.65
1. 2-Propanol	67-63-0	No	No	Inventory, 4 Test	No
2. Water	7732-18-5	No	No	Inventory	No

Regulatory Information Statement: This SDS was prepared in accordance with 29 CFR 1910.1200, Regulation (EC) No.1272/2008, and European Directive 67/548/EEC as amended.

16. Other Information

Revision Date: 11/06/2012

Company Policy or Disclaimer

For research use only, not for human or veterinary 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.

N.A.=Not available, N.P.=Not applicable, N.D.=Not determined, N.E.=Not established, N.R.=Not required

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



1. Identification of the Substance/Mixture and of the Company/Undertaking

Product Code: 600045
Product Name: Lipid Droplets Assay Oil Red O Solution
Intended Use: For research use only, not for human or veterinary use.

Manufacturer Information

Company Name: Cayman Chemical Company
Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
Alternate Emergency Contact: CHEMTREC Outside USA and Canada: +1 (703)527-3887
Information: Cayman Chemical Company +1 (734)971-3335
Web site address: www.caymanchem.com

2. Hazards Identification

GHS Classification	Placard	Key word	GHS Hazard
Flammable Liquids, Category 2	Flame	Danger	Highly flammable liquid and vapor
Serious Eye Damage/Eye Irritation, Category 2A	Exclamation point	Warning	Causes serious eye irritation
Target Organ Systemic Toxicity (single exposure), Category 3	Exclamation point	Warning	May cause respiratory irritation, or may cause drowsiness and dizziness
Skin Corrosion/Irritation, Category 3	none	Warning	Causes mild skin irritation

GHS Hazard Phrases:
 H225: Highly flammable liquid and vapor
 H319: Causes serious eye irritation
 H336: May cause drowsiness or dizziness.
 H316: Causes mild skin irritation.

GHS Precaution Phrases:
 P210: Keep away from {heat/sparks/open flames/hot surfaces}. - No smoking.
 P280: Wear protective gloves/clothing and eye/face protection as specified by the manufacturer/supplier or the competent authority.
 P264: Wash hands thoroughly after handling.
 P261: Avoid breathing dust/fume/gas/mist/vapours/spray.

GHS Response Phrases:
 P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
 P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P337+313: If eye irritation persists, get medical advice/attention.
 P309+311: Call a POISON CENTER or doctor/physician if exposed or you feel unwell.
 P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P332+313: If skin irritation occurs, get medical advice/attention.

GHS Storage and Disposal Phrases:
 Please refer to Section 7 for Storage and Section 13 for Disposal information.

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

Potential Health Effects (Acute and Chronic):
 Causes eye and respiratory system irritation.
 Causes mild skin irritation.
 Material is irritating to the mucous membranes and upper respiratory tract.
 May be harmful by inhalation, ingestion, or skin absorption.
 Vapors may cause drowsiness and dizziness.

Target Organs:	Cardiovascular system, Eyes, Gastrointestinal System, Kidneys, Respiratory system, Nervous system, Liver, Skin.
LD 50 / LC 50:	Please refer to Section 11.
Signs and Symptoms Of Exposure:	Overexposure can cause: headache, dizziness, tiredness, narcosis, and nausea. Repeated exposure may cause dryness and cracking of the skin. To the best of our knowledge, the toxicological properties have not been thoroughly investigated.
Medical Conditions Generally Aggravated By Exposure:	No data available.

3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#	Risk Phrases	RTECS #
1. 2-Propanol	67-63-0	95.0 -100.0 %	200-661-7	R11-36-67	NT8050000
2. Oil Red O	1320-06-5	0.0 -5.0 %	215-295-3	No phrases apply.	NA

4. First Aid Measures

Emergency and First Aid Procedures:	
In Case of Inhalation:	Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
In Case of Skin Contact:	Immediately wash skin with soap and plenty of water for at least 20 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.
In Case of Eye Contact:	Hold eyelids apart and flush eyes with plenty of water for at least 20 minutes. Have eyes examined and tested by medical personnel.
In Case of Ingestion:	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.
Indication of any immediate medical attention and special treatment needed:	No data available.

5. Fire Fighting Measures

Suitable Extinguishing Media:	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray. Use water spray to cool fire-exposed containers.
Unsuitable Extinguishing Media:	A solid water stream may be inefficient.
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. Sensitive to static discharge. Vapors can travel to a source of ignition and flash back.
Flash Pt:	11.70 C Method Used: Closed Cup
Autoignition Pt:	455.60 C
Explosive Limits:	LEL: 2.5% UEL: 12.7%
Hazardous Combustion Products:	No data available.
Fire Fighting Instructions:	As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes. Note: Flammable as diluted in isopropanol.

6. Accidental Release Measures

Protective Precautions, Protective Equipment and Emergency Procedures:	Avoid breathing vapors and provide adequate ventilation. As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
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Environmental Precautions:	Take steps to avoid release into the environment, if safe to do so.
Steps To Be Taken In Case Material Is Released Or Spilled:	Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

7. Handling and Storage

Precautions To Be Taken in Handling:	Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure.
Precautions To Be Taken in Storing:	Keep container tightly closed. Store in accordance with information listed on the product insert.
Hazard Label Information:	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling.

8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TWA	Other Limits
1. 2-Propanol	67-63-0	PEL: 400 ppm	TLV: 200 ppm STEL: 400 ppm	No data.
2. Oil Red O	1320-06-5	No data.	No data.	No data.
Hazardous Components (Chemical Name)	CAS #	Britain EH40	France VL	Europe
1. 2-Propanol	67-63-0	TWA: 999 mg/m ³ (400 ppm) STEL: 1250 mg/m ³ (500 ppm)	STEL: 980 mg/m ³ (400 ppm)	No data.
2. Oil Red O	1320-06-5	No data.	No data.	No data.

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

9. Physical and Chemical Properties

Information on Basic Physical and Chemical Properties	
Physical States:	<input type="checkbox"/> Gas <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Solid
Appearance and Odor:	Solution
Melting Point:	-88.50 C
Boiling Point:	82.50 C
Flash Pt:	11.70 C Method Used: Closed Cup
Evaporation Rate:	No data.
Explosive Limits:	LEL: 2.5% UEL: 12.7%
Vapor Pressure (vs. Air or mm Hg):	33 MM_HG at 20.0 C
Vapor Density (vs. Air = 1):	No data.
Specific Gravity (Water = 1):	No data.

Density:	0.785 G/ML at 20.0 C
Solubility in Water:	No data.
Autoignition Pt:	455.60 C
Explosive Properties:	No data available.
Oxidizing Properties:	No data available.
Other Information	
Percent Volatile:	No data.

10. Stability and Reactivity

Reactivity:	No data available.
Stability:	Unstable [] Stable [X]
Stability Note(s):	Stable if stored in accordance with information listed on the product insert.
Conditions To Avoid:	heat, flames and sparks
Polymerization:	Will occur [] Will not occur [X]
Incompatibility - Materials To Avoid:	acetaldehyde acid anhydrides acids aluminum chlorine ethylene oxide halogenated compounds isocyanates oxidizing agents
Hazardous Decomposition Or Byproducts:	carbon dioxide carbon monoxide

11. Toxicological Information

Toxicological Information:	The toxicological effects of this product have not been thoroughly studied.
Chronic Toxicological Effects:	2-Propanol - Toxicity Data: Oral LD50 (rat): 5,045 mg/kg; Oral LD50 (mouse): 3,600 mg/kg; Oral LD50 (rabbit): 6,410 mg/kg; 2-Propanol - Irritation Data: Eyes (rabbit): 100 mg (24 h) moderate; Skin (rabbit): 500 mg mild; 2-Propanol - Investigated as a mutagen, reproductive effector, and tumorigen. Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information. 2-Propanol RTECS Number: NT8050000
Carcinogenicity/Other Information:	IARC: Group 3: Not classifiable as to its carcinogenicity to humans (2-Propanol)

Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
1. 2-Propanol	67-63-0	n.a.	3	A4	n.a.
2. Oil Red O	1320-06-5	n.a.	n.a.	n.a.	n.a.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

General Ecological Information:	Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.
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13. Disposal Considerations

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

14. Transport Information

Globally Harmonized System of Classification and Labelling

Flammable Liquids, Category 2 - Danger! Highly flammable liquid and vapor
 Serious Eye Damage/Eye Irritation, Category 2A - Warning! Causes serious eye irritation
 Target Organ Systemic Toxicity (single exposure), Category 3 - Warning! May cause respiratory irritation, or may cause drowsiness and dizziness
 Skin Corrosion/Irritation, Category 3 - Warning! Causes mild skin irritation

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name: Isopropanol Solution
DOT Hazard Class: 3
DOT Hazard Label: FLAMMABLE LIQUID
UN/NA Number: 1219
Packing Group: II

LAND TRANSPORT (European ADR/RID)

ADR/RID Shipping Name: Isopropanol Solution
UN Number: 1219
Hazard Class: 3 - FLAMMABLE LIQUID
Packing Group: II

AIR TRANSPORT (ICAO/IATA)

ICAO/IATA Shipping Name: Isopropanol Solution
UN Number: 1219
Hazard Class: 3 - FLAMMABLE LIQUID
Packing Group: II
IATA Classification: 3

Additional Transport Information: Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

European Community Hazard Symbol codes F: Highly Flammable; Xi: Irritant

European Community Risk and Safety Phrases

R11 - Highly flammable.
 R36 - Irritating to eyes.
 R67 - Vapours may cause drowsiness and dizziness
 S16 - Keep away from sources of ignition.
 S24/25 - Avoid contact with skin and eyes.
 S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. 2-Propanol	67-63-0	No	No	Yes	No
2. Oil Red O	1320-06-5	No	No	No	No

Other US EPA or State Lists

Hazardous Components (Chemical Name)	CAS #	CAA HAP,ODC	CWA NPDES	TSCA	CA PROP.65
1. 2-Propanol	67-63-0	No	No	Inventory, 4 Test	No
2. Oil Red O	1320-06-5	No	No	Inventory	No

Regulatory Information Statement: This SDS was prepared in accordance with 29 CFR 1910.1200, Regulation (EC) No.1272/2008, and European Directive 67/548/EEC as amended.

16. Other Information

Revision Date: 11/06/2012

Company Policy or Disclaimer

For research use only, not for human or veterinary 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.

N.A.=Not available, N.P.=Not applicable, N.D.=Not determined, N.E.=Not established, N.R.=Not required

Lipid Droplets Assay Dye Extraction Solution

Revision: 11/06/2012

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

1. Identification of the Substance/Mixture and of the Company/Undertaking

Product Code: 600046
Product Name: Lipid Droplets Assay Dye Extraction Solution
Intended Use: For research use only, not for human or veterinary use.
Manufacturer Information
Company Name: Cayman Chemical Company
Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
Alternate Emergency Contact: CHEMTREC Outside USA and Canada: +1 (703)527-3887
Information: Cayman Chemical Company +1 (734)971-3335
Web site address: www.caymanchem.com

2. Hazards Identification

GHS Classification	Placard	Key word	GHS Hazard
Flammable Liquids, Category 2	Flame	Danger	Highly flammable liquid and vapor
Serious Eye Damage/Eye Irritation, Category 2A	Exclamation point	Warning	Causes serious eye irritation
Target Organ Systemic Toxicity (single exposure), Category 3	Exclamation point	Warning	May cause respiratory irritation, or may cause drowsiness and dizziness
Skin Corrosion/Irritation, Category 3	none	Warning	Causes mild skin irritation

GHS Hazard Phrases:
 H225: Highly flammable liquid and vapor
 H319: Causes serious eye irritation
 H336: May cause drowsiness or dizziness.
 H316: Causes mild skin irritation.

GHS Precaution Phrases:
 P210: Keep away from {heat/sparks/open flames/hot surfaces}. - No smoking.
 P280: Wear protective gloves/clothing and eye/face protection as specified by the manufacturer/supplier or the competent authority.
 P264: Wash hands thoroughly after handling.
 P261: Avoid breathing dust/fume/gas/mist/vapours/spray.

GHS Response Phrases:
 P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
 P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P337+313: If eye irritation persists, get medical advice/attention.
 P309+311: Call a POISON CENTER or doctor/physician if exposed or you feel unwell.
 P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P332+313: If skin irritation occurs, get medical advice/attention.

GHS Storage and Disposal Phrases:
 Please refer to Section 7 for Storage and Section 13 for Disposal information.

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

Potential Health Effects (Acute and Chronic):
 Causes eye and respiratory system irritation.
 Causes mild skin irritation.
 Material is irritating to the mucous membranes and upper respiratory tract.
 May be harmful by inhalation, ingestion, or skin absorption.
 Vapors may cause drowsiness and dizziness.

Lipid Droplets Assay Dye Extraction Solution

Target Organs:	Cardiovascular system, Eyes, Gastrointestinal System, Kidneys, Respiratory system, Nervous system, Liver, Skin.
LD 50 / LC 50:	Please refer to Section 11.
Signs and Symptoms Of Exposure:	Overexposure can cause: headache, dizziness, tiredness, narcosis, and nausea. Repeated exposure may cause dryness and cracking of the skin. To the best of our knowledge, the toxicological properties have not been thoroughly investigated.
Medical Conditions Generally Aggravated By Exposure:	No data available.

3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#	Risk Phrases	RTECS #
1. 2-Propanol	67-63-0	100.0 %	200-661-7	R11-36-67	NT8050000

4. First Aid Measures

Emergency and First Aid Procedures:	
In Case of Inhalation:	Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
In Case of Skin Contact:	Immediately wash skin with soap and plenty of water for at least 20 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.
In Case of Eye Contact:	Hold eyelids apart and flush eyes with plenty of water for at least 20 minutes. Have eyes examined and tested by medical personnel.
In Case of Ingestion:	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.
Indication of any immediate medical attention and special treatment needed:	No data available.

5. Fire Fighting Measures

Suitable Extinguishing Media:	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray. Use water spray to cool fire-exposed containers.
Unsuitable Extinguishing Media:	A solid water stream may be inefficient.
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. Sensitive to static discharge. Vapors can travel to a source of ignition and flash back.
Flash Pt:	11.70 C Method Used: Closed Cup
Autoignition Pt:	455.60 C
Explosive Limits:	LEL: 2.5% UEL: 12.7%
Hazardous Combustion Products:	No data available.
Fire Fighting Instructions:	As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

6. Accidental Release Measures

Protective Precautions, Protective Equipment and Emergency Procedures:	Avoid breathing vapors and provide adequate ventilation. As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
Environmental Precautions:	Take steps to avoid release into the environment, if safe to do so.

Lipid Droplets Assay Dye Extraction Solution

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Steps To Be Taken In Case Material Is Released Or Spilled: Contain spill and collect, as appropriate.
Transfer to a chemical waste container for disposal in accordance with local regulations.

7. Handling and Storage

Precautions To Be Taken in Handling: Avoid breathing dust/fume/gas/mist/vapours/spray.
Avoid prolonged or repeated exposure.

Precautions To Be Taken in Storing: Keep container tightly closed.
Store in accordance with information listed on the product insert.

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

8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TWA	Other Limits
1. 2-Propanol	67-63-0	PEL: 400 ppm	TLV: 200 ppm STEL: 400 ppm	No data.
Hazardous Components (Chemical Name)	CAS #	Britain EH40	France VL	Europe
1. 2-Propanol	67-63-0	TWA: 999 mg/m3 (400 ppm) STEL: 1250 mg/m3 (500 ppm)	STEL: 980 mg/m3 (400 ppm)	No data.

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

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

Eye Protection: Safety glasses

Protective Gloves: Compatible chemical-resistant gloves

Other Protective Clothing: Lab coat

Respiratory Equipment (Specify Type): NIOSH approved respirator, as conditions warrant.

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

Environmental Exposure Controls: No data available.

9. Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

Physical States: Gas Liquid Solid

Appearance and Odor: No data available.

Melting Point: -88.50 C

Boiling Point: 82.50 C

Flash Pt: 11.70 C Method Used: Closed Cup

Evaporation Rate: No data.

Explosive Limits: LEL: 2.5% UEL: 12.7%

Vapor Pressure (vs. Air or mm Hg): 33 MM_HG at 20.0 C

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

Specific Gravity (Water = 1): No data.

Density: 0.785 G/ML at 20.0 C

Solubility in Water: No data.

Lipid Droplets Assay Dye Extraction Solution

Revision: 11/06/2012

Autoignition Pt: 455.60 C
Explosive Properties: No data available.
Oxidizing Properties: No data available.
Other Information
Percent Volatile: No data.

10. Stability and Reactivity

Reactivity: No data available.
Stability: Unstable [] Stable [X]
Stability Note(s): Stable if stored in accordance with information listed on the product insert.
Conditions To Avoid: heat, flames and sparks
Polymerization: Will occur [] Will not occur [X]
Incompatibility - Materials To Avoid: acetaldehyde
 acid anhydrides
 acids
 aluminum
 chlorine
 ethylene oxide
 halogenated compounds
 isocyanates
 oxidizing agents
Hazardous Decomposition Or Byproducts: carbon dioxide
 carbon monoxide

11. Toxicological Information

Toxicological Information: The toxicological effects of this product have not been thoroughly studied.

 2-Propanol - Toxicity Data: Oral LD50 (rat): 5,045 mg/kg; Oral LD50 (mouse): 3,600 mg/kg;
 Oral LD50 (rabbit): 6,410 mg/kg;
 2-Propanol - Irritation Data: Eyes (rabbit): 100 mg (24 h) moderate; Skin (rabbit): 500 mg mild;
Chronic Toxicological Effects: 2-Propanol - Investigated as a mutagen, reproductive effector, and tumorigen.
 Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here.
 See actual entry in RTECS for complete information.
 2-Propanol RTECS Number: NT8050000
Carcinogenicity/Other Information: IARC: Group 3: Not classifiable as to its carcinogenicity to humans (2-Propanol)

Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
1. 2-Propanol	67-63-0	n.a.	3	A4	n.a.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

General Ecological Information: Avoid release into the 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

Globally Harmonized System of Classification and Labelling

Flammable Liquids, Category 2 - Danger! Highly flammable liquid and vapor

Lipid Droplets Assay Dye Extraction Solution

Serious Eye Damage/Eye Irritation, Category 2A - Warning! Causes serious eye irritation
 Target Organ Systemic Toxicity (single exposure), Category 3 - Warning! May cause respiratory irritation, or may cause drowsiness and dizziness
 Skin Corrosion/Irritation, Category 3 - Warning! Causes mild skin irritation

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name Isopropanol
DOT Hazard Class: 3
DOT Hazard Label: FLAMMABLE LIQUID
UN/NA Number: 1219
Packing Group: II

LAND TRANSPORT (European ADR/RID)

ADR/RID Shipping Name Isopropanol
UN Number: 1219
Hazard Class: 3 - FLAMMABLE LIQUID
Packing Group: II

AIR TRANSPORT (ICAO/IATA)

ICAO/IATA Shipping Name Isopropanol
UN Number: 1219
Hazard Class: 3 - FLAMMABLE LIQUID
Packing Group: II
IATA Classification: 3

Additional Transport Information: Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

European Community Hazard Symbol codes F: Highly Flammable; Xi: Irritant

European Community Risk and Safety Phrases

- R11 - Highly flammable.
- R36 - Irritating to eyes.
- R67 - Vapours may cause drowsiness and dizziness
- S16 - Keep away from sources of ignition.
- S24/25 - Avoid contact with skin and eyes.
- S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. 2-Propanol	67-63-0	No	No	Yes	No

Other US EPA or State Lists

Hazardous Components (Chemical Name)	CAS #	CAA HAP,ODC	CWA NPDES	TSCA	CA PROP.65
1. 2-Propanol	67-63-0	No	No	Inventory, 4 Test	No

Regulatory Information Statement: This SDS was prepared in accordance with 29 CFR 1910.1200, Regulation (EC) No.1272/2008, and European Directive 67/548/EEC as amended.

16. Other Information

Revision Date: 11/06/2012

Company Policy or Disclaimer

For research use only, not for human or veterinary 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.

N.A.=Not available, N.P.=Not applicable, N.D.=Not determined, N.E.=Not established, N.R.=Not required

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



1. Identification of the Substance/Mixture and of the Company/Undertaking

Product Code: 10008981
Product Name: Lipid Droplets Assay Fixative (10X)
Intended Use: For research use only, not for human or veterinary use.

Manufacturer Information

Company Name: Cayman Chemical Company
Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
Alternate Emergency Contact: CHEMTREC Outside USA and Canada: +1 (703)527-3887
Information: Cayman Chemical Company +1 (734)971-3335
Web site address: www.caymanchem.com

2. Hazards Identification

GHS Classification	Placard	Key word	GHS Hazard
Carcinogenicity, Category 2	Health hazard	Warning	Suspected of causing cancer
Acute Toxicity: Oral, Category 3	Skull and crossbones	Danger	Toxic if swallowed
Acute Toxicity: Skin, Category 3	Skull and crossbones	Danger	Toxic in contact with skin
Acute Toxicity: Inhalation, Category 3	Skull and crossbones	Danger	Toxic if inhaled
Skin Corrosion/Irritation, Category 1B	Corrosive	Danger	Causes severe skin burns and eye damage
Skin Sensitization, Category 1	Exclamation point	Warning	May cause an allergic skin reaction
Flammable Liquids, Category 2	Flame	Danger	Highly flammable liquid and vapor
Target Organ Systemic Toxicity (single exposure), Category 1	Health hazard	Danger	Causes damage to {<target organs>}

GHS Hazard Phrases:

- H351: Suspected of causing cancer.
- H301: Toxic if swallowed.
- H311: Toxic in contact with skin.
- H331: Toxic if inhaled.
- H314: Causes severe skin burns and eye damage.
- H317: May cause an allergic skin reaction
- H225: Highly flammable liquid and vapor
- H370: Causes damage to organs.

GHS Precaution Phrases:

- 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.
- P264: Wash hands thoroughly after handling.
- P280: Wear protective gloves/clothing and eye/face protection as specified by the manufacturer/supplier or the competent authority.
- P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
- P260: Do not breathe dust/fume/gas/mist/vapours/spray.
- P272: Contaminated work clothing should not be allowed out of the workplace.
- P210: Keep away from {heat/sparks/open flames/hot surfaces}. - No smoking.

GHS Response Phrases:	P307+311: IF exposed: Call a POISON CENTER or doctor/physician. P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P301+330+331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P302+352: IF ON SKIN: Wash with plenty of soap and water. P361: Remove/Take off immediately all contaminated clothing. P333+313: If skin irritation or rash occurs, seek medical advice/attention. P363: Wash contaminated clothing before reuse. P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P311: Call a POISON CENTER or doctor/physician. P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
GHS Storage and Disposal Phrases:	Please refer to Section 7 for Storage and Section 13 for Disposal information.
Route(s) of Entry:	Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection
Potential Health Effects (Acute and Chronic):	Causes burns. Lachrymator. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. May cause adverse reproductive effects in males and/or females. Toxic if inhaled, absorbed through skin, or swallowed. Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
Target Organs:	Eyes, Heart, Kidneys, Respiratory system, Liver, Skin.
LD 50 / LC 50:	Please refer to Section 11.
Signs and Symptoms Of Exposure:	Exposure may cause: burning sensation, convulsions, coughing, chest pain, difficulty breathing, gastrointestinal disturbance, and wheezing. Skin and respiratory sensitizer. To the best of our knowledge, the toxicological properties have not been thoroughly investigated.
Medical Conditions Generally Aggravated By Exposure:	No data available.

3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#	Risk Phrases	RTECS #
1. Formaldehyde	50-00-0	37.0 %	200-001-8	R23/24/25-34-40-43	LP8925000
2. Methanol	67-56-1	10.0 -15.0 %	200-659-6	R11-23/24/25-39/23 /24/25	PC1400000
3. Water	7732-18-5	48.0 -53.0 %	231-791-2	No phrases apply.	ZC0110000

4. First Aid Measures

Emergency and First Aid Procedures:	
In Case of Inhalation:	Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
In Case of Skin Contact:	Immediately wash skin with soap and plenty of water for at least 20 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.
In Case of Eye Contact:	Hold eyelids apart and flush eyes with plenty of water for at least 20 minutes. Have eyes examined and tested by medical personnel.
In Case of Ingestion:	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.
Indication of any immediate medical attention and special treatment needed:	No data available.

5. Fire Fighting Measures

Suitable Extinguishing Media:	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray. Use water spray to cool fire-exposed containers.
Unsuitable Extinguishing Media:	A solid water stream may be inefficient.
Flammable Properties and Hazards:	Emits toxic fumes under fire conditions.
Flash Pt:	No data.
Autoignition Pt:	No data available.
Explosive Limits:	LEL: No data. UEL: No data.
Hazardous Combustion Products:	No data available.
Fire Fighting Instructions:	As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

6. Accidental Release Measures

Protective Precautions, Protective Equipment and Emergency Procedures:	Avoid breathing vapors and provide adequate ventilation. As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
Environmental Precautions:	Take steps to avoid release into the environment, if safe to do so.
Steps To Be Taken In Case Material Is Released Or Spilled:	Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

7. Handling and Storage

Precautions To Be Taken in Handling:	Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure.
Precautions To Be Taken in Storing:	Keep container tightly closed. Store in accordance with information listed on the product insert.
Hazard Label Information:	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling.

8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA TWA	ACGIH TWA	Other Limits
1. Formaldehyde	50-00-0	PEL: 0.75 ppm STEL: 2 ppm (15 min)	CEIL: 0.3 ppm	No data.
2. Methanol	67-56-1	PEL: 200 ppm	TLV: 200 ppm STEL: 250 ppm	No data.
3. Water	7732-18-5	No data.	No data.	No data.
Hazardous Components (Chemical Name)	CAS #	Britain EH40	France VL	Europe
1. Formaldehyde	50-00-0	TWA: 2.5 mg/m3 (2 ppm) STEL: 2.5 mg/m3 (2 ppm)	TWA: 0.5 ppm STEL: 1 ppm	No data.
2. Methanol	67-56-1	TWA: 266 mg/m3 (200 ppm) STEL: 333 mg/m3 (250 ppm)	TWA: 260 mg/m3 (200 ppm) STEL: 1300 mg/m3 (1000 ppm)	TWA: 260 mg/m3
3. Water	7732-18-5	No data.	No data.	No data.

Protective Equipment Summary - Hazard Label Information:	Compatible chemical-resistant gloves Eye wash station in work area Lab coat Safety glasses Safety shower in work area Vent Hood
Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
Eye Protection:	Safety glasses
Protective Gloves:	Compatible chemical-resistant gloves

Other Protective Clothing:	Lab coat
Respiratory Equipment (Specify Type):	NIOSH approved respirator, as conditions warrant.
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.
Environmental Exposure Controls:	No data available.

9. Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

Physical States:	<input type="checkbox"/> Gas <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Solid
Appearance and Odor:	No data available.
Melting Point:	No data.
Boiling Point:	No data.
Flash Pt:	No data.
Evaporation Rate:	No data.
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Specific Gravity (Water = 1):	No data.
Solubility in Water:	No data.
Autoignition Pt:	No data.
Explosive Properties:	No data available.
Oxidizing Properties:	No data available.
Other Information	
Percent Volatile:	No data.

10. Stability and Reactivity

Reactivity:	No data available.
Stability:	Unstable <input type="checkbox"/> Stable <input checked="" type="checkbox"/>
Stability Note(s):	Stable if stored in accordance with information listed on the product insert.
Conditions To Avoid:	heat, flames and sparks
Polymerization:	Will occur <input type="checkbox"/> Will not occur <input checked="" type="checkbox"/>
Incompatibility - Materials To Avoid:	acid anhydrides amines aniline isocyanates peroxides phenol strong acids strong bases strong oxidizing agents urea
Hazardous Decomposition Or Byproducts:	carbon dioxide carbon monoxide

11. Toxicological Information

Toxicological Information: The toxicological effects of this product have not been thoroughly studied.

Formaldehyde - Toxicity Data: Oral LDLo (human): 70 mg/kg; Oral LDLo (wmn): 108 mg/kg; Oral TDLo (wmn): 3.6 ml/kg; Oral LD50 (mouse): 42 mg/kg; Oral LD50 (rat): 100 mg/kg; Inhalation TCLo (man): 300 µg/m³; Inhalation LC50 (rat): 250 ppm (2h); Skin LD50 (rabbit): 270 mg/kg;

Formaldehyde - Irritation Data: Eyes (rabbit): 750 µg (24h) severe; Skin (rabbit): 2 mg (24h) severe;

Methanol - Toxicity Data: Oral LD50 (rat): 5,600 mg/kg; Oral LD50 (rabbit): 14,200 mg/kg; Inhalation LC50 (rat): 64,000 ppm (4h); Inhalation LC50 (mouse): 61,100 ppm (134 m); Skin LD50 (rabbit): 15,800 mg/kg; Oral LDLO (human): 143 mg/kg;

Methanol - Irritation Data: Skin (rabbit): 20 mg (24h) moderate; Eyes (rabbit): 40 mg moderate; Eyes (rabbit): 100 mg (24h) moderate;

Chronic Toxicological Effects: Formaldehyde - Investigated as a tumorigen, mutagen, and reproductive effector. 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.
 Formaldehyde RTECS Number: LP8925000
 Methanol RTECS Number: PC1400000

Carcinogenicity/Other Information: Formaldehyde - California Prop. 65 carcinogen.
 Formaldehyde - IARC: 1 - Group 1: Carcinogenic to humans;
 Formaldehyde - NTP: Reasonably anticipated to be a human carcinogen;

Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
1. Formaldehyde	50-00-0	Known	1	A2	Yes
2. Methanol	67-56-1	n.a.	n.a.	n.a.	n.a.
3. Water	7732-18-5	n.a.	n.a.	n.a.	n.a.

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

12. Ecological Information

General Ecological Information: Avoid release into the 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

Globally Harmonized System of Classification and Labelling

- Carcinogenicity, Category 2 - Warning! Suspected of causing cancer
- Acute Toxicity: Oral, Category 3 - Danger! Toxic if swallowed
- Acute Toxicity: Skin, Category 3 - Danger! Toxic in contact with skin
- Acute Toxicity: Inhalation, Category 3 - Danger! Toxic if inhaled
- Skin Corrosion/Irritation, Category 1B - Danger! Causes severe skin burns and eye damage
- Skin Sensitization, Category 1 - Warning! May cause an allergic skin reaction
- Flammable Liquids, Category 2 - Danger! Highly flammable liquid and vapor
- Target Organ Systemic Toxicity (single exposure), Category 1 - Danger! Causes damage to {<target organs>}

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name: Formaldehyde solution, flammable

DOT Hazard Class: 3 (8)

DOT Hazard Label: FLAMMABLE LIQUID, CORROSIVE



SAFETY DATA SHEET

Lipid Droplets Assay Fixative (10X)

UN/NA Number:	1198
Packing Group:	III
LAND TRANSPORT (European ADR/RID)	
ADR/RID Shipping Name	Formaldehyde solution, flammable
UN Number:	1198
Hazard Class:	3 (8) - FLAMMABLE LIQUID, CORROSIVE
Packing Group:	III
AIR TRANSPORT (ICAO/IATA)	
ICAO/IATA Shipping Name	Formaldehyde solution, flammable
UN Number:	1198
Hazard Class:	3 (8) - FLAMMABLE LIQUID, CORROSIVE
Packing Group:	III
IATA Classification:	3 (8)
Additional Transport Information:	Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

European Community Hazard Symbol codes T: Toxic; C: Corrosive; Carcinogenic Hazard: 3

European Community Risk and Safety Phrases

- R23/24/25 - Toxic by inhalation, in contact with skin and if swallowed.
- R34 - Causes burns.
- R39/23/24/25 - Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
- R40 - Limited evidence of a carcinogenic effect
- R43 - May cause sensitization by skin contact.
- S24/25 - Avoid contact with skin and eyes.
- S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.
- S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label whenever possible.)
- S51 - Use only in well ventilated areas.
- S53 - Avoid exposure - obtain special instructions before use.

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
2. Methanol	67-56-1	No	Yes 5000 LB	Yes	No
3. Water	7732-18-5	No	No	No	No

Other US EPA or State Lists

Hazardous Components (Chemical Name)	CAS #	CAA HAP,ODC	CWA NPDES	TSCA	CA PROP.65
1. Formaldehyde	50-00-0	HAP	Yes	Inventory	Yes
2. Methanol	67-56-1	HAP	No	Inventory	No
3. Water	7732-18-5	No	No	Inventory	No

Regulatory Information Statement: This SDS was prepared in accordance with 29 CFR 1910.1200, Regulation (EC) No.1272/2008, and European Directive 67/548/EEC as amended.

16. Other Information

Revision Date: 11/06/2012

Company Policy or Disclaimer

For research use only, not for human or veterinary 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.

N.A.=Not available, N.P.=Not applicable, N.D.=Not determined, N.E.=Not established, N.R.=Not required

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



1. Identification of the Substance/Mixture and of the Company/Undertaking

Product Code: 10012670

Product Name: Chloroquine Positive Control (25 mM)

Intended Use: For research use only, not for human or veterinary use.

Manufacturer Information

Company Name: Cayman Chemical Company

Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300

Alternate Emergency Contact: CHEMTREC Outside USA and Canada: +1 (703)527-3887

Information: Cayman Chemical Company +1 (734)971-3335

Web site address: www.caymanchem.com

2. Hazards Identification

GHS Classification	Placard	Key word	GHS Hazard
Acute Toxicity: Oral, Category 4	Exclamation point	Warning	Harmful if swallowed
Toxic To Reproduction, Category 1A	Health hazard	Danger	May damage fertility or the unborn child
Target Organ Systemic Toxicity (repeated exposure), Category 2	Health hazard	Warning	May cause damage to eyes through prolonged or repeated exposure.
Carcinogenicity, Category 2	Health hazard	Warning	Suspected of causing cancer
Skin Sensitization, Category 1	Exclamation point	Warning	May cause an allergic skin reaction

GHS Hazard Phrases:

H302: Harmful if swallowed.
 H360: May damage fertility or the unborn child.
 H373: May cause damage to eyes through prolonged or repeated exposure.
 H351: Suspected of causing cancer.
 H317: May cause an allergic skin reaction.

GHS Precaution Phrases:

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.
 P260: Do not breathe dust/fume/gas/mist/vapours/spray.
 P272: Contaminated work clothing should not be allowed out of the workplace.
 P280: Wear protective gloves/clothing and eye/face protection as specified by the manufacturer/supplier or the competent authority.

GHS Response Phrases:

P301+312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
 P330: Rinse mouth.
 P308+313: IF exposed or concerned: Get medical attention/advice.
 P314: Get medical attention/advice if you feel unwell.
 P302+352: IF ON SKIN: Wash with plenty of soap and water.
 P333+313: If skin irritation or rash occurs, seek medical advice/attention.
 P363: Wash contaminated clothing before reuse.

GHS Storage and Disposal Phrases:

Please refer to Section 7 for Storage and Section 13 for Disposal information.

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

Potential Health Effects (Acute and Chronic): Harmful if swallowed.
 Material may be irritating to the mucous membranes and upper respiratory tract.
 May be harmful by inhalation or skin absorption.
 May cause damage to eyes through prolonged or repeated exposure.
 May cause eye, skin, or respiratory system irritation.
 May cause sensitization by skin contact.
 May damage fertility or the unborn child.
 Suspected of causing cancer.

Target Organs: Eyes, Heart.

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

Signs and Symptoms Of Exposure: To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Medical Conditions Generally Aggravated By Exposure: No data available.

3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#	Risk Phrases	RTECS #
1. Chloroquine diphosphate	50-63-5	1.29 %	200-055-2	R22-40-43-48/22-60-61	VB2450000
2. Water	7732-18-5	98.71 %	231-791-2	No phrases apply.	ZC0110000

4. First Aid Measures

Emergency and First Aid Procedures:

In Case of Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

In Case of Skin Contact: Immediately wash skin with soap and plenty of water for at least 20 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

In Case of Eye Contact: Hold eyelids apart and flush eyes with plenty of water for at least 20 minutes. Have eyes examined and tested by medical personnel.

In Case of Ingestion: 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.

Indication of any immediate medical attention and special treatment needed: No data available.

5. Fire Fighting Measures

Suitable Extinguishing Media: Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.
 Use water spray to cool fire-exposed containers.

Unsuitable Extinguishing Media: A solid water stream may be inefficient.

Flammable Properties and Hazards: No data available.

Flash Pt: No data.

Autoignition Pt: No data available.

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

Hazardous Combustion Products: No data available.

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

6. Accidental Release Measures

Protective Precautions, Protective Equipment and Emergency Procedures:	Avoid breathing vapors and provide adequate ventilation. As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
Environmental Precautions:	Take steps to avoid release into the environment, if safe to do so.
Steps To Be Taken In Case Material Is Released Or Spilled:	Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

7. Handling and Storage

Precautions To Be Taken in Handling:	Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure.
Precautions To Be Taken in Storing:	Keep container tightly closed. Store in accordance with information listed on the product insert.
Hazard Label Information:	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling.

8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TLV	Other Limits
1. Chloroquine diphosphate	50-63-5	No data.	No data.	No data.
2. Water	7732-18-5	No data.	No data.	No data.
Hazardous Components (Chemical Name)	CAS #	Britain EH40	France VL	Europe
1. Chloroquine diphosphate	50-63-5	No data.	No data.	No data.
2. Water	7732-18-5	No data.	No data.	No data.

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

9. Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

Physical States:	<input type="checkbox"/> Gas <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Solid
Appearance and Odor:	No data available.
Melting Point:	No data.
Boiling Point:	No data.
Flash Pt:	No data.
Evaporation Rate:	No data.
Vapor Pressure (vs. Air or mm Hg):	No data.

Vapor Density (vs. Air = 1):	No data.
Specific Gravity (Water = 1):	No data.
Solubility in Water:	No data.
Autoignition Pt:	No data.
Explosive Properties:	No data available.
Oxidizing Properties:	No data available.
Other Information	
Percent Volatile:	No data.

10. Stability and Reactivity

Reactivity:	No data available.
Stability:	Unstable [] Stable [X]
Stability Note(s):	Stable if stored in accordance with information listed on the product insert.
Conditions To Avoid:	No data available.
Polymerization:	Will occur [] Will not occur [X]
Incompatibility - Materials To Avoid:	strong oxidizing agents
Hazardous Decomposition Or Byproducts:	carbon dioxide carbon monoxide hydrogen chloride gas nitrogen oxides phosphorus oxides

11. Toxicological Information

Toxicological Information:	The toxicological effects of this product have not been thoroughly studied.
	Chloroquine diphosphate - Toxicity Data: Oral LD50 (rat): 623 mg/kg; Oral LD50 (mouse): 500 mg/kg;
Chronic Toxicological Effects:	Chloroquine diphosphate - 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. Chloroquine diphosphate RTECS Number: VB2450000

Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
1. Chloroquine diphosphate	50-63-5	n.a.	n.a.	n.a.	n.a.
2. Water	7732-18-5	n.a.	n.a.	n.a.	n.a.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

General Ecological Information:	Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.
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13. Disposal Considerations

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

Globally Harmonized System of Classification and Labelling

Acute Toxicity: Oral, Category 4 - Warning! Harmful if swallowed

Toxic To Reproduction, Category 1A - Danger! May damage fertility or the unborn child

Target Organ Systemic Toxicity (repeated exposure), Category 2 - Warning! May cause damage to {<target organs>} through prolonged or repeated exposure



SAFETY DATA SHEET

Chloroquine Positive Control (25 mM)

Carcinogenicity, Category 2 - Warning! Suspected of causing cancer
 Skin Sensitization, Category 1 - Warning! May cause an allergic skin reaction

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name Not dangerous goods.

LAND TRANSPORT (European ADR/RID)

ADR/RID Shipping Name Not dangerous goods.

AIR TRANSPORT (ICAO/IATA)

ICAO/IATA Shipping Name Not dangerous goods.

Additional Transport Information: Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

European Community Hazard Symbol codes Xn: Harmful; Carcinogenic Hazard: 3

European Community Risk and Safety Phrases

- R22 - Harmful if swallowed.
- R40 - Limited evidence of a carcinogenic effect
- R43 - May cause sensitization by skin contact.
- R48/22 - Harmful: danger of serious damage to health by prolonged exposure if swallowed.
- R60 - May impair fertility.
- R61 - May cause harm to the unborn child.
- S24/25 - Avoid contact with skin and eyes.
- S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.
- S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label whenever possible.)
- S53 - Avoid exposure - obtain special instructions before use.

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Chloroquine diphosphate	50-63-5	No	No	No	No
2. Water	7732-18-5	No	No	No	No

Other US EPA or State Lists

Hazardous Components (Chemical Name)	CAS #	CAA HAP,ODC	CWA NPDES	TSCA	CA PROP.65
1. Chloroquine diphosphate	50-63-5	No	No	No	No
2. Water	7732-18-5	No	No	Inventory	No

Regulatory Information Statement: This SDS was prepared in accordance with 29 CFR 1910.1200, Regulation (EC) No.1272/2008, and European Directive 67/548/EEC as amended.

16. Other Information

Revision Date: 11/06/2012

Company Policy or Disclaimer

For research use only, not for human or veterinary 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.

N.A.=Not available, N.P.=Not applicable, N.D.=Not determined, N.E.=Not established, N.R.=Not required

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



1. Identification of the Substance/Mixture and of the Company/Undertaking

Product Code: 10012671
Product Name: Steatosis Assay Hematoxylin
Intended Use: For research use only, not for human or veterinary use.

Manufacturer Information

Company Name: Cayman Chemical Company
Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
Alternate Emergency Contact: CHEMTREC Outside USA and Canada: +1 (703)527-3887
Information: Cayman Chemical Company +1 (734)971-3335
Web site address: www.caymanchem.com

2. Hazards Identification

GHS Classification	Placard	Key word	GHS Hazard
Serious Eye Damage/Eye Irritation, Category 1	Corrosive	Danger	Causes serious eye damage
Skin Corrosion/Irritation, Category 2	Exclamation point	Warning	Causes skin irritation
Target Organ Systemic Toxicity (single exposure), Category 3	Exclamation point	Warning	May cause respiratory irritation, or may cause drowsiness and dizziness
Skin Sensitization, Category 1	Exclamation point	Warning	May cause an allergic skin reaction
Acute Toxicity: Oral, Category 4	Exclamation point	Warning	Harmful if swallowed

GHS Hazard Phrases:
 H318: Causes serious eye damage
 H315: Causes skin irritation.
 H335: May cause respiratory irritation.
 H317: May cause an allergic skin reaction
 H302: Harmful if swallowed.

GHS Precaution Phrases:
 P280: Wear protective gloves/clothing and eye/face protection as specified by the manufacturer/supplier or the competent authority.
 P264: Wash hands thoroughly after handling.
 P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
 P272: Contaminated work clothing should not be allowed out of the workplace.

GHS Response Phrases:
 P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P310: Immediately call a POISON CENTER or doctor/physician.
 P302+352: IF ON SKIN: Wash with plenty of soap and water.
 P332+313: If skin irritation occurs, get medical advice/attention.
 P362: Take off contaminated clothing and wash before re-use.
 P309+311: Call a POISON CENTER or doctor/physician if exposed or you feel unwell.
 P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P333+313: If skin irritation or rash occurs, seek medical advice/attention.
 P363: Wash contaminated clothing before reuse.
 P301+312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
 P330: Rinse mouth.

GHS Storage and Disposal Phrases:	Please refer to Section 7 for Storage and Section 13 for Disposal information.
Route(s) of Entry:	Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection
Potential Health Effects (Acute and Chronic):	Causes eye burns. Causes skin and respiratory system irritation. Harmful if swallowed. Material is irritating to the mucous membranes and upper respiratory tract. May be harmful by inhalation or skin absorption. May cause allergic skin reaction.
Target Organs:	Central nervous system, Bones, Cardiovascular system, Eyes, Kidneys, Lungs, Teeth, Liver.
LD 50 / LC 50:	Please refer to Section 11.
Signs and Symptoms Of Exposure:	Ingestion may cause nausea, vomiting, abdominal pain, weakness, muscle tenderness, respiratory failure, convulsions, cardiovascular collapse, pulmonary edema, hypocalcemic tetany, and severe metabolic acidosis. Based on evaluation of currently available data this substance or mixture is not classifiable according to GHS.
Medical Conditions Generally Aggravated By Exposure:	No data available.

3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#	Risk Phrases	RTECS #
1. Sodium iodate	7681-55-2	< 1.0 %	231-672-5	R8-22-42/43	NN1400000
2. Hematoxylin	517-28-2	< 1.0 %	208-237-3	R22-36/37/38	MH7875000
3. Aluminum sulfate hexadecahydrate	7784-31-8	1.0 -10.0 %	NA	R22-37/38-41	WS5697000
4. Acetic acid	64-19-7	1.0 -10.0 %	200-580-7	R10-21-23-41-43-52	AF1225000
5. Ethylene glycol	107-21-1	20.0 -35.0 %	203-473-3	R22	KW2975000
6. Water	7732-18-5	43.0 -78.0 %	231-791-2	No phrases apply.	ZC0110000

4. First Aid Measures

Emergency and First Aid Procedures:	
In Case of Inhalation:	Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
In Case of Skin Contact:	Immediately wash skin with soap and plenty of water for at least 20 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.
In Case of Eye Contact:	Hold eyelids apart and flush eyes with plenty of water for at least 20 minutes. Have eyes examined and tested by medical personnel.
In Case of Ingestion:	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.
Indication of any immediate medical attention and special treatment needed:	No data available.

5. Fire Fighting Measures

Suitable Extinguishing Media:	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray. Use water spray to cool fire-exposed containers.
Unsuitable Extinguishing Media:	A solid water stream may be inefficient.
Flammable Properties and Hazards:	No data available.
Flash Pt:	No data.
Autoignition Pt:	No data available.

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

6. Accidental Release Measures

Protective Precautions, Protective Equipment and Emergency Procedures:	Avoid breathing vapors and provide adequate ventilation. As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
Environmental Precautions:	Take steps to avoid release into the environment, if safe to do so.
Steps To Be Taken In Case Material Is Released Or Spilled:	Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

7. Handling and Storage

Precautions To Be Taken in Handling:	Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure.
Precautions To Be Taken in Storing:	Keep container tightly closed. Store in accordance with information listed on the product insert.
Hazard Label Information:	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling.

8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TWA	Other Limits
1. Sodium iodate	7681-55-2	No data.	No data.	No data.
2. Hematoxylin	517-28-2	No data.	No data.	No data.
3. Aluminum sulfate hexadecahydrate	7784-31-8	No data.	No data.	No data.
4. Acetic acid	64-19-7	PEL: 10 ppm	TLV: 10 ppm STEL: 15 ppm	No data.
5. Ethylene glycol	107-21-1	No data.	CEIL: 100 mg/m3 (H)	No data.
6. Water	7732-18-5	No data.	No data.	No data.
Hazardous Components (Chemical Name)	CAS #	Britain EH40	France VL	Europe
1. Sodium iodate	7681-55-2	No data.	No data.	No data.
2. Hematoxylin	517-28-2	No data.	No data.	No data.
3. Aluminum sulfate hexadecahydrate	7784-31-8	No data.	No data.	No data.
4. Acetic acid	64-19-7	No data.	STEL: 25 mg/m3 (10 ppm)	TWA: 25 mg/m3
5. Ethylene glycol	107-21-1	TWA: 10 mg/m3 (Powder) TWA: 52 mg/m3 (20 ppm) STEL: 104 mg/m3 (40 ppm) (Vapor)	TWA: 52 mg/m3 (20 ppm) STEL: 104 mg/m3 (40 ppm)	TWA: 52 mg/m3 STEL: 104 mg/m3
6. Water	7732-18-5	No data.	No data.	No data.

Protective Equipment Summary - Hazard Label Information:	Compatible chemical-resistant gloves Eye wash station in work area Lab coat Safety glasses Safety shower in work area Vent Hood
Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
Eye Protection:	Safety glasses
Protective Gloves:	Compatible chemical-resistant gloves
Other Protective Clothing:	Lab coat
Respiratory Equipment (Specify Type):	NIOSH approved respirator, as conditions warrant.

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.
Environmental Exposure Controls:	No data available.

9. Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

Physical States:	<input type="checkbox"/> Gas <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Solid
Appearance and Odor:	Dark purple liquid
pH:	2 - 4
Melting Point:	No data.
Boiling Point:	No data.
Flash Pt:	No data.
Evaporation Rate:	No data.
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Specific Gravity (Water = 1):	No data.
Solubility in Water:	No data.
Autoignition Pt:	No data.
Explosive Properties:	No data available.
Oxidizing Properties:	No data available.
Other Information	
Percent Volatile:	No data.

10. Stability and Reactivity

Reactivity:	No data available.
Stability:	Unstable <input type="checkbox"/> Stable <input checked="" type="checkbox"/>
Stability Note(s):	No data available.
Conditions To Avoid:	No data available.
Polymerization:	Will occur <input type="checkbox"/> Will not occur <input checked="" type="checkbox"/>
Incompatibility - Materials To Avoid:	alcohols amines hydroxides metals oxidizing agents permanganates peroxides soluble carbonates soluble phosphates
Hazardous Decomposition Or Byproducts:	carbon dioxide carbon monoxide

11. Toxicological Information

Toxicological Information:	The toxicological effects of this product have not been thoroughly studied. Aluminum sulfate hexadecahydrate - Toxicity Data: Oral LD50 (rat): 370 mg/kg; Oral LD50 (mouse): 980 mg/kg;
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Chronic Toxicological Effects: Aluminum sulfate hexadecahydrate - Investigated as a mutagen.
 Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here.
 See actual entry in RTECS for complete information.
 Aluminum sulfate hexadecahydrate RTECS Number: WS5697000

Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
1. Sodium iodate	7681-55-2	n.a.	n.a.	n.a.	n.a.
2. Hematoxylin	517-28-2	n.a.	n.a.	n.a.	n.a.
3. Aluminum sulfate hexadecahydrate	7784-31-8	n.a.	n.a.	n.a.	n.a.
4. Acetic acid	64-19-7	n.a.	n.a.	n.a.	n.a.
5. Ethylene glycol	107-21-1	n.a.	n.a.	A4	n.a.
6. Water	7732-18-5	n.a.	n.a.	n.a.	n.a.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

General Ecological Information: Avoid release into the 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

Globally Harmonized System of Classification and Labelling

Serious Eye Damage/Eye Irritation, Category 1 - Danger! Causes serious eye damage
 Skin Corrosion/Irritation, Category 2 - Warning! Causes skin irritation
 Target Organ Systemic Toxicity (single exposure), Category 3 - Warning! May cause respiratory irritation, or may cause drowsiness and dizziness
 Skin Sensitization, Category 1 - Warning! May cause an allergic skin reaction
 Acute Toxicity: Oral, Category 4 - Warning! Harmful if swallowed

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name Not dangerous goods.

LAND TRANSPORT (European ADR/RID)

ADR/RID Shipping Name Not dangerous goods.

AIR TRANSPORT (ICAO/IATA)

ICAO/IATA Shipping Name Not dangerous goods.

Additional Transport Information: Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

European Community Hazard Symbol codes Xn: Harmful

European Community Risk and Safety Phrases

R22 - Harmful if swallowed.
 R36/37/38 - Irritating to eyes, respiratory system and skin.
 R41 - Risk of serious damage to the eyes.
 R43 - May cause sensitization by skin contact.
 S24/25 - Avoid contact with skin and eyes.
 S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Sodium iodate	7681-55-2	No	No	No	No
2. Hematoxylin	517-28-2	No	No	No	No
3. Aluminum sulfate hexadecahydrate	7784-31-8	No	No	No	No



SAFETY DATA SHEET

Steatosis Assay Hematoxylin

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
4. Acetic acid	64-19-7	No	Yes 5000 LB	No	No
5. Ethylene glycol	107-21-1	No	Yes 5000 LB	Yes	No
6. Water	7732-18-5	No	No	No	No

Other US EPA or State Lists

Hazardous Components (Chemical Name)	CAS #	CAA HAP,ODC	CWA NPDES	TSCA	CA PROP.65
1. Sodium iodate	7681-55-2	No	No	Inventory	No
2. Hematoxylin	517-28-2	No	No	Inventory	No
3. Aluminum sulfate hexadecahydrate	7784-31-8	No	No	No	No
4. Acetic acid	64-19-7	No	No	Inventory	No
5. Ethylene glycol	107-21-1	HAP	No	Inventory, 4 Test	No
6. Water	7732-18-5	No	No	Inventory	No

Regulatory Information Statement:

This SDS was prepared in accordance with 29 CFR 1910.1200, Regulation (EC) No.1272/2008, and European Directive 67/548/EEC as amended.

16. Other Information

Revision Date: 11/08/2012

Company Policy or Disclaimer

For research use only, not for human or veterinary 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.

N.A.=Not available, N.P.=Not applicable, N.D.=Not determined, N.E.=Not established, N.R.=Not required