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Material Safety Data Sheet

Imperial Stain

1. Product and company identification

Product name : Imperial Stain

Supplier :
Thermo Fisher Scientific
Pierce Biotechnology
P.O. Box 117
Rockford, IL 61105
United States
815.968.0747 or
800.874.3723

Manufacturer :
Thermo Fisher Scientific
Pierce Biotechnology
P.O. Box 117
Rockford, IL 61105
United States
815.968.0747 or
800.874.3723

Code : 0024615 0024615F 0024617 0024625S 1901472

MSDS # : 7239

Validation date : 6/8/2012.

Print date : 6/8/2012.

Responsible name : MSDS Specialist

In case of emergency : **CHEMTREC: 800.424.9300 OUTSIDE US: 703.527.3887**

Material uses : **Refer to the instruction booklet for proper and intended use. Otherwise, contact supplier for specific applications.**

Product type : Liquid.

2. Hazards identification

Emergency overview

Physical state : Liquid.

Color : Clear. Purple. [Dark]

Odor : Acetic acid.

Signal word : DANGER!

Hazard statements : CAUSES RESPIRATORY TRACT, EYE AND SKIN BURNS. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER. BIRTH DEFECT HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE BIRTH DEFECTS. DEVELOPMENTAL HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE ADVERSE DEVELOPMENTAL EFFECTS. CONTAINS MATERIAL WHICH MAY CAUSE HERITABLE GENETIC EFFECTS, BASED ON IN VITRO DATA.

Precautionary measures : Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Do not get in eyes. Do not get on skin. Do not eat, drink or smoke when using this product. Avoid prolonged contact with eyes, skin and clothing. Keep container tightly closed. Use personal protective equipment as required. Wash thoroughly after handling.

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2. Hazards identification

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

Routes of entry : Eye contact. Inhalation. Ingestion.

Potential acute health effects

Inhalation : Corrosive to the respiratory system.

Ingestion : Harmful if swallowed. May cause burns to mouth, throat and stomach.

Skin : Corrosive to the skin. Causes burns. Harmful in contact with skin.

Eyes : Corrosive to eyes. Causes burns.

Potential chronic health effects

Chronic effects : Contains material that can cause target organ damage.

Carcinogenicity : Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : Contains material which may cause heritable genetic effects, based on in vitro data.

Teratogenicity : Contains material which can cause birth defects.

Developmental effects : Contains material which can cause developmental abnormalities.

Fertility effects : No known significant effects or critical hazards.

Target organs : Contains material which causes damage to the following organs: kidneys, the nervous system, mucous membranes, heart, central nervous system (CNS).
Contains material which may cause damage to the following organs: blood, the reproductive system, liver, upper respiratory tract, skin, eyes, teeth.

Over-exposure signs/symptoms

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
stomach pains
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
reduced fetal weight
increase in fetal deaths
skeletal malformations

Eyes : Adverse symptoms may include the following:
pain
watering
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (Section 11)

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3. Composition/information on ingredients

United States

Name	CAS number	%
Acetic acid	64-19-7	7 - 10
Organic Beta Hydroxy Acid	-	5 - 7
Organic Alcohol	-	3 - 5
ETHYL ALCOHOL	64-17-5	3 - 5
Organic Acid	-	1 - 3

Canada

Name	CAS number	%
Acetic acid	64-19-7	7 - 10
Organic Beta Hydroxy Acid	-	5 - 7
Organic Alcohol	-	3 - 5
ETHYL ALCOHOL	64-17-5	3 - 5

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

4. First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. Fire-fighting measures

Flammability of the product : In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

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5. Fire-fighting measures

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

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

6. Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

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

Methods for cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage : Store between the following temperatures: 20 to 25°C (68 to 77°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

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8. Exposure controls/personal protection

United States

Ingredient	Exposure limits
Acetic acid	**ACGIH (United States, 0/1994).** STEL: 37 mg/m³ TWA: 25 mg/m³ **ACGIH (United States, 0/2000).** STEL: 15 ppm TWA: 10 ppm **MSHA (United States).** TWA: 25 mg/m³ **NIOSH (United States, 0/1994).** STEL: 37 mg/m³ TWA: 25 mg/m³ **NIOSH (United States, 0/2000).** STEL: 15 ppm TWA: 10 ppm **OSHA (United States, 0/1989).** STEL: 37 ppm TWA: 10 ppm TWA: 25 mg/m³ **ACGIH TLV (United States, 2/2010).** STEL: 37 mg/m³ 15 minute(s). STEL: 15 ppm 15 minute(s). TWA: 25 mg/m³ 8 hour(s). TWA: 10 ppm 8 hour(s). **NIOSH REL (United States, 6/2009).** STEL: 37 mg/m³ 15 minute(s). STEL: 15 ppm 15 minute(s). TWA: 25 mg/m³ 10 hour(s). TWA: 10 ppm 10 hour(s). **OSHA PEL (United States, 6/2010).** TWA: 25 mg/m³ 8 hour(s). TWA: 10 ppm 8 hour(s). **OSHA PEL 1989 (United States, 3/1989).** TWA: 25 mg/m³ 8 hour(s). TWA: 10 ppm 8 hour(s).
Organic Alcohol	**AIHA WEEL (United States, 5/2010).** TWA: 10 mg/m³ 8 hour(s).
Ethyl Alcohol	**ACGIH TLV (United States, 2000).** TWA: 1880 mg/m³ 8 hour(s). **OSHA (United States, 0/1989).** CEIL: 7600 ppm TWA: 1000 ppm TWA: 1900 mg/m³ **MSHA (United States).** TWA: 1900 mg/m³ **NIOSH (United States, 0/1994).** TWA: 1000 ppm TWA: 1900 mg/m³ **ACGIH (United States, 0/1996).** TWA: 1880 mg/m³ **ACGIH (United States).** TWA: 1000 ppm **ACGIH TLV (United States, 2/2010).** STEL: 1000 ppm 15 minute(s).

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8. Exposure controls/personal protection

	NIOSH REL (United States, 6/2009). TWA: 1900 mg/m³ 10 hour(s). TWA: 1000 ppm 10 hour(s). **OSHA PEL (United States, 6/2010).** TWA: 1900 mg/m³ 8 hour(s). TWA: 1000 ppm 8 hour(s). **OSHA PEL 1989 (United States, 3/1989).** TWA: 1900 mg/m³ 8 hour(s). TWA: 1000 ppm 8 hour(s).

Canada

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/m³	Other	ppm	mg/m³	Other	ppm	mg/m³	Other	Notations
Acetic acid	US ACGIH 2/2010	10	25	-	15	37	-	-	-	-	
	AB 4/2009	10	25	-	15	37	-	-	-	-	
	BC 10/2009	10	-	-	15	-	-	-	-	-	
	ON 7/2010	10	25	-	15	37	-	-	-	-	
	QC 6/2008	10	25	-	15	37	-	-	-	-	
Organic Alcohol	ON 7/2010	-	10	-	-	-	-	-	-	-	[a]
		50	155	-	-	-	-	-	-	-	[b]
	US AIHA 5/2010	-	10	-	-	-	-	-	-	-	
Ethyl Alcohol	US ACGIH 2/2010	-	1880	-	1000	-	-	-	-	-	
	AB 4/2009	1000	1880	-	-	-	-	-	-	-	
	BC 10/2009	-	-	-	1000	-	-	-	-	-	
	ON 7/2010	-	-	-	1000	-	-	-	-	-	
	QC 6/2008	1000	1880	-	-	-	-	-	-	-	

Form: [a]Aerosol only. [b]Vapour and aerosol.

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

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

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

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8. Exposure controls/personal protection

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties

Physical state : Liquid.

Flash point : Closed cup: >100°C (>212°F) [Product does not sustain combustion.]

Color : Clear. Purple. [Dark]

Odor : Acetic acid.

pH : 2.01 to 2.2

Dispersibility properties : Easily dispersible in the following materials: cold water and hot water.
Partially dispersible in the following materials: diethyl ether and acetone.

Solubility : Easily soluble in the following materials: cold water and hot water.

10. Stability and reactivity

Chemical stability : The product is stable.

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

11. Toxicological information

United States

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Acetic acid	LC50 Inhalation Vapor	Rat	11000 mg/m3	4 hours
	LD50 Dermal	Rabbit	1060 mg/kg	-
	LD50 Dermal	Rat	1060 mg/kg	-
	LD50 Oral	Rat	3310 mg/kg	-
Organic Alcohol	LD50 Dermal	Rabbit	20800 mg/kg	-
	LD50 Oral	Rat	20 g/kg	-
Ethyl Alcohol	LC50 Inhalation Vapor	Rat	124700 mg/m3	4 hours
	LD50 Oral	Rat	7 g/kg	-

Conclusion/Summary : Not available.

Chronic toxicity

Conclusion/Summary : Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation

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Acetic acid	Eyes - Mild irritant	Rabbit	-	-	-
	Skin - Mild irritant	Human	-	-	-
	Skin - Mild irritant	Rabbit	-	-	-
	Skin - Severe irritant	Rabbit	-	-	-
Organic Alcohol	Eyes - Mild irritant	Rabbit	-	-	-
	Skin - Moderate irritant	Child	-	-	-
	Skin - Mild irritant	Human	-	-	-
	Skin - Moderate irritant	Human	-	-	-
	Skin - Mild irritant	Woman	-	-	-
Ethyl Alcohol	Eyes - Mild irritant	Rabbit	-	-	-
	Eyes - Moderate irritant	Rabbit	-	-	-
	Eyes - Severe irritant	Rabbit	-	-	-
	Skin - Mild irritant	Rabbit	-	-	-
	Skin - Moderate irritant	Rabbit	-	-	-

Conclusion/Summary : Not available.

Sensitizer

Conclusion/Summary : Not available.

Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Ethyl Alcohol	Equivocal - Oral - TD	Mouse	400 g/kg	57 weeks Intermittent
	Equivocal - Unreported - TDLo	Mouse	120 g/kg	18 weeks Intermittent
	Equivocal - Oral - TDLo	Mouse	320 mg/kg	50 weeks Intermittent

Conclusion/Summary : Not available.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Organic Beta Hydroxy Acid	-	-	-	None.	-	None.
Ethyl Alcohol	A3	1	D	None.	-	+

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Organic Alcohol	Cytogenetic Analysis	Subject: Mammalian-Animal	Positive
	Cytogenetic Analysis	Subject: Mammalian-Animal	Positive
Ethyl Alcohol	DNA Damage	Subject: Bacteria	Positive
	DNA Damage	Subject: Bacteria	Positive
	Mutation in Microorganisms	Subject: Bacteria	Positive
	Mutation in Microorganisms	Subject: Bacteria	Positive
	Gene Conversion and Mitotic Recombination	Subject: Bacteria	Positive
	Sex chromosome loss and nondisjunction.	Subject: Insect	Positive
	Cytogenetic Analysis	Subject: Mammalian-Animal	Positive
	Cytogenetic Analysis	Subject: Mammalian-Animal	Positive
	Cytogenetic Analysis	Subject: Mammalian-Animal	Positive
	Cytogenetic Analysis	Subject: Mammalian-Animal	Positive
	DNA Adduct	Subject: Mammalian-Animal	Positive
	DNA Adduct	Subject: Mammalian-Animal	Positive

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	DNA Damage	Subject: Mammalian-Animal	Positive
	Micronucleus Test	Subject: Mammalian-Animal	Positive
	-	Subject: Mammalian-Animal	Positive
	Other Mutation Test Systems	Subject: Mammalian-Animal	Positive
	Other Mutation Test Systems	Subject: Mammalian-Animal	Positive
	Sister Chromatid Exchange	Subject: Mammalian-Animal	Positive
	Specific Locus Test	Subject: Mammalian-Animal	Positive
	Sperm Morphology	Subject: Mammalian-Animal	Positive
	Cytogenetic Analysis	Subject: Mammalian-Human	Positive
	Cytogenetic Analysis	Subject: Mammalian-Human Cell: Germ	Positive
	Micronucleus Test	Subject: Mammalian-Human Cell: Somatic	Positive
	Micronucleus Test	Subject: Mammalian-Human	Positive
	DNA Inhibition	Subject: Mammalian-Human	Positive
	Cytogenetic Analysis	Subject: Mammalian-Human	Positive
	Cytogenetic Analysis	Subject: Mammalian-Human	Positive
	Cytogenetic Analysis	Subject: Mammalian-Human	Positive
	Sister Chromatid Exchange	Subject: Mammalian-Human	Positive

Conclusion/Summary : Not available.

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Ethyl Alcohol	Positive - Oral	Woman - Female	41 g/kg	-

Conclusion/Summary : Not available.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
Organic Alcohol	-	-	-	Mouse	Intraperitoneal: 100 mg/kg	15 days During Pregnancy
	-	Positive	-	Mouse	Intraperitoneal: 100 mg/kg	11 days During Pregnancy
Ethyl Alcohol	-	-	-	Mouse	Intraperitoneal: 2.9 g/kg	8 days
	-	-	-	Mouse	Intraperitoneal: 2900 mg/kg	8 days
	-	-	-	Dog - Male	Unreported: 100 mg/kg	1 days
	-	Positive	-	Rat	Intraperitoneal: 600 mg/kg	15 days
	Positive	-	-	Mammal - species unspecified	Oral: 206 g/kg	-
	-	Positive	-	Rat - Male	Unreported: 400 mg/kg	1 days
	-	-	Positive	Mouse	Intraperitoneal: 15 g/kg	8 days
	-	Positive	-	Rat - Female	Unreported:	10 days

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					2400 mg/kg	
	-	Positive	-	Woman - Female	Unreported: 200 mg/kg	5 days
	-	Positive	-	Dog	Oral: 221 g/kg	-
	-	Positive	-	Mammal - species unspecified	Oral: 78 g/kg	-
	-	-	Positive	Mouse	Intraperitoneal: 22.8 g/kg	8 days
	-	-	Positive	Mouse	Intraperitoneal: 5.8 g/kg	5 days
	-	-	Positive	Rat	Intraperitoneal: 600 mg/kg	15 days
	-	Positive	Positive	Mouse	Intraperitoneal: 2900 mg/kg	8 days
	-	-	Positive	Mammal - species unspecified	Intravenous	-
	-	-	-	Mouse - Male	Oral: 1680 g/kg	70 days

Conclusion/Summary : Not available.

Canada

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Acetic acid	LC50 Inhalation Vapor	Rat	11000 mg/m3	4 hours
	LD50 Dermal	Rabbit	1060 mg/kg	-
	LD50 Dermal	Rat	1060 mg/kg	-
	LD50 Oral	Rat	3310 mg/kg	-
Organic Alcohol	LD50 Dermal	Rabbit	20800 mg/kg	-
	LD50 Oral	Rat	20 g/kg	-
Ethyl Alcohol	LC50 Inhalation Vapor	Rat	124700 mg/m3	4 hours
	LD50 Oral	Rat	7 g/kg	-

Conclusion/Summary : Not available.

Chronic toxicity

Conclusion/Summary : Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Acetic acid	Eyes - Mild irritant	Rabbit	-	-	-
	Skin - Mild irritant	Human	-	-	-
	Skin - Mild irritant	Rabbit	-	-	-
	Skin - Severe irritant	Rabbit	-	-	-
Organic Alcohol	Eyes - Mild irritant	Rabbit	-	-	-
	Skin - Moderate irritant	Child	-	-	-
	Skin - Mild irritant	Human	-	-	-
	Skin - Moderate irritant	Human	-	-	-
	Skin - Mild irritant	Woman	-	-	-
Ethyl Alcohol	Eyes - Mild irritant	Rabbit	-	-	-
	Eyes - Moderate irritant	Rabbit	-	-	-
	Eyes - Severe irritant	Rabbit	-	-	-
	Skin - Mild irritant	Rabbit	-	-	-
	Skin - Moderate irritant	Rabbit	-	-	-

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11. Toxicological information

Conclusion/Summary : Not available.

Sensitizer

Conclusion/Summary : Not available.

Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Ethyl Alcohol	Equivocal - Oral - TD	Mouse	400 g/kg	57 weeks Intermittent
	Equivocal - Unreported - TDLo	Mouse	120 g/kg	18 weeks Intermittent
	Equivocal - Oral - TDLo	Mouse	320 mg/kg	50 weeks Intermittent

Conclusion/Summary : Not available.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Organic Beta Hydroxy Acid	-	-	-	None.	-	None.
Ethyl Alcohol	A3	1	D	None.	-	+

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Organic Alcohol	Cytogenetic Analysis	Subject: Mammalian-Animal	Positive
	Cytogenetic Analysis	Subject: Mammalian-Animal	Positive
Ethyl Alcohol	DNA Damage	Subject: Bacteria	Positive
	DNA Damage	Subject: Bacteria	Positive
	Mutation in Microorganisms	Subject: Bacteria	Positive
	Mutation in Microorganisms	Subject: Bacteria	Positive
	Gene Conversion and Mitotic Recombination	Subject: Bacteria	Positive
	Sex chromosome loss and nondisjunction.	Subject: Insect	Positive
	Cytogenetic Analysis	Subject: Mammalian-Animal	Positive
	Cytogenetic Analysis	Subject: Mammalian-Animal	Positive
	Cytogenetic Analysis	Subject: Mammalian-Animal	Positive
	Cytogenetic Analysis	Subject: Mammalian-Animal	Positive
	DNA Adduct	Subject: Mammalian-Animal	Positive
	DNA Adduct	Subject: Mammalian-Animal	Positive
	DNA Damage	Subject: Mammalian-Animal	Positive
	Micronucleus Test	Subject: Mammalian-Animal	Positive
	-	Subject: Mammalian-Animal	Positive
	Other Mutation Test Systems	Subject: Mammalian-Animal	Positive
	Other Mutation Test Systems	Subject: Mammalian-Animal	Positive
	Sister Chromatid Exchange	Subject: Mammalian-Animal	Positive
	Specific Locus Test	Subject: Mammalian-Animal	Positive
	Sperm Morphology	Subject: Mammalian-Animal	Positive
	Cytogenetic Analysis	Subject: Mammalian-Human	Positive
	Cytogenetic Analysis	Subject: Mammalian-Human Cell: Germ	Positive
	Micronucleus Test	Subject: Mammalian-Human	Positive

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	Micronucleus Test	Cell: Somatic Subject: Mammalian-Human	Positive
	DNA Inhibition	Subject: Mammalian-Human	Positive
	Cytogenetic Analysis	Subject: Mammalian-Human	Positive
	Cytogenetic Analysis	Subject: Mammalian-Human	Positive
	Cytogenetic Analysis	Subject: Mammalian-Human	Positive
	Sister Chromatid Exchange	Subject: Mammalian-Human	Positive

Conclusion/Summary : Not available.

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Ethyl Alcohol	Positive - Oral	Woman - Female	41 g/kg	-

Conclusion/Summary : Not available.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
Organic Alcohol	-	Positive	-	Mouse	Intraperitoneal: 100 mg/kg	11 days During Pregnancy
	-	-	-	Mouse	Intraperitoneal: 100 mg/kg	15 days During Pregnancy
Ethyl Alcohol	-	-	-	Mouse	Intraperitoneal: 2.9 g/kg	8 days
	-	Positive	Positive	Mouse	Intraperitoneal: 2900 mg/kg	8 days
	-	Positive	-	Rat	Intraperitoneal: 600 mg/kg	15 days
	-	Positive	-	Rat - Male	Unreported: 400 mg/kg	1 days
	-	Positive	-	Rat - Female	Unreported: 2400 mg/kg	10 days
	-	Positive	-	Woman - Female	Unreported: 200 mg/kg	5 days
	-	-	Positive	Mouse	Intraperitoneal: 15 g/kg	8 days
	-	Positive	-	Dog	Oral: 221 g/kg	-
	-	-	Positive	Mouse	Intraperitoneal: 22.8 g/kg	8 days
	-	-	Positive	Mouse	Intraperitoneal: 5.8 g/kg	5 days
	-	-	Positive	Rat	Intraperitoneal: 600 mg/kg	15 days
	-	Positive	-	Mammal - species unspecified	Oral: 78 g/kg	-
	-	-	-	Mouse	Intraperitoneal: 2900 mg/kg	8 days
	Positive	-	-	Mammal - species unspecified	Oral: 206 g/kg	-
	-	-	-	Dog - Male	Unreported: 100 mg/kg	1 days

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11. Toxicological information

	-	-	Positive	Mammal - species unspecified	Intravenous	-
	-	-	-	Mouse - Male	Oral: 1680 g/kg	70 days

Conclusion/Summary : Not available.

12. Ecological information

Ecotoxicity : No known significant effects or critical hazards.

United States

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Acetic acid	Acute EC50 156 mg/L	Algae	24 hours
	Acute EC50 65 mg/L	Daphnia	48 hours
	Acute EC50 32 to 47 mg/L	Daphnia	24 hours
	Acute LC50 50.1 ul/L Marine water	Crustaceans - Artemia sp.	48 hours
	Acute LC50 410 mg/L	Fish	48 hours
	Acute LC50 75000 ug/L Fresh water	Fish - Lepomis macrochirus - 5.3 to 7.2 cm - 3.5 to 3.9 g	96 hours
	Acute LC50 423 mg/L	Fish	24 hours
	Acute LC50 88 mg/L	Fish	96 hours
Organic Alcohol	Acute LC50 >1000 mg/L Marine water	Crustaceans - Chaetogammarus marinus - Young - 5 mm	48 hours
	Acute LC50 1020000 ug/L Fresh water	Daphnia - Ceriodaphnia dubia - <=24 hours	48 hours
	Acute LC50 710000 ug/L Fresh water	Fish - Pimephales promelas - <=7 days	96 hours
	Chronic NOEC 660000 ug/L Fresh water	Daphnia - Ceriodaphnia dubia - <=24 hours	48 hours
	Chronic NOEC 600000 ug/L Fresh water	Fish - Pimephales promelas - <=7 days	96 hours
Ethyl Alcohol	Acute EC50 2000 ug/L Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 25500 ug/L Marine water	Crustaceans - Artemia franchiscana - LARVAE	48 hours
	Acute LC50 42000 ug/L Fresh water	Fish - Oncorhynchus mykiss	4 days
	Chronic NOEC <6.3 g/L Fresh water	Daphnia - Daphnia magna	48 hours
Organic Acid	Acute EC50 735.54 mg/L Fresh water	Daphnia - Ceriodaphnia dubia - Neonate - <24 hours	48 hours

Conclusion/Summary : Not available.

Persistence/degradability

Conclusion/Summary : Not available.

Canada

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Acetic acid	Acute EC50 156 mg/L	Algae	24 hours
	Acute EC50 65 mg/L	Daphnia	48 hours
	Acute EC50 32 to 47 mg/L	Daphnia	24 hours
	Acute LC50 50.1 ul/L Marine water	Crustaceans - Artemia sp.	48 hours
	Acute LC50 410 mg/L	Fish	48 hours
	Acute LC50 75000 ug/L Fresh water	Fish - Lepomis macrochirus - 5.3 to 7.2 cm - 3.5 to 3.9 g	96 hours

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Imperial Stain

12. Ecological information

	Acute LC50 423 mg/L	Fish	24 hours
	Acute LC50 88 mg/L	Fish	96 hours
Organic Alcohol	Acute LC50 >1000 mg/L Marine water	Crustaceans - Chaetogammarus marinus - Young - 5 mm	48 hours
	Acute LC50 1020000 ug/L Fresh water	Daphnia - Ceriodaphnia dubia - <=24 hours	48 hours
	Acute LC50 710000 ug/L Fresh water	Fish - Pimephales promelas - <=7 days	96 hours
	Chronic NOEC 660000 ug/L Fresh water	Daphnia - Ceriodaphnia dubia - <=24 hours	48 hours
	Chronic NOEC 600000 ug/L Fresh water	Fish - Pimephales promelas - <=7 days	96 hours
Ethyl Alcohol	Acute EC50 2000 ug/L Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 25500 ug/L Marine water	Crustaceans - Artemia franchiscana - LARVAE	48 hours
	Acute LC50 42000 ug/L Fresh water	Fish - Oncorhynchus mykiss	4 days
	Chronic NOEC <6.3 g/L Fresh water	Daphnia - Daphnia magna	48 hours

Conclusion/Summary : Not available.

Persistence/degradability

Conclusion/Summary : Not available.

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

13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

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

14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*
DOT Classification	UN3264	Corrosive liquid, acidic, inorganic, n.o.s. (Acetic acid)	8	III
IATA-DGR Class	UN3264	Corrosive liquid, acidic, inorganic, n.o.s. (Acetic acid)	8	III

PG* : Packing group

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15. Regulatory information

United States

HCS Classification : Corrosive material
Carcinogen
Target organ effects

U.S. Federal regulations : **TSCA 8(a) IUR Exempt/Partial exemption**: Not determined
United States inventory (TSCA 8b): All components are listed or exempted.

SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: Ethyl Alcohol; Organic Beta Hydroxy Acid; Organic Alcohol; Acetic acid
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Ethyl Alcohol: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Organic Beta Hydroxy Acid: Immediate (acute) health hazard; Organic Alcohol: Immediate (acute) health hazard, Delayed (chronic) health hazard; Acetic acid: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard

Clean Water Act (CWA) 311: Acetic acid

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

State regulations

Massachusetts : The following components are listed: ACETIC ACID; ETHYL ALCOHOL

New York : The following components are listed: Acetic acid

New Jersey : The following components are listed: ACETIC ACID; ETHANOIC ACID; Organic Alcohol; ETHYL ALCOHOL; ALCOHOL

Pennsylvania : The following components are listed: ACETIC ACID; Organic Alcohol; DENATURED ALCOHOL

California Prop. 65

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

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Ethyl Alcohol	No.	Yes.	No.	No.

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

Canada

WHMIS (Canada) : Class E: Corrosive material

Canadian lists

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Imperial Stain

15. Regulatory information

Canadian NPRI : The following components are listed: Ethyl alcohol

CEPA Toxic substances : None of the components are listed.

Canada inventory : All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

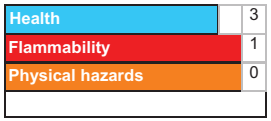
International regulations

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

16. Other information

Label requirements : CAUSES RESPIRATORY TRACT, EYE AND SKIN BURNS. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER. BIRTH DEFECT HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE BIRTH DEFECTS. DEVELOPMENTAL HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE ADVERSE DEVELOPMENTAL EFFECTS. CONTAINS MATERIAL WHICH MAY CAUSE HERITABLE GENETIC EFFECTS, BASED ON IN VITRO DATA.

Hazardous Material Information System (U.S.A.) :



The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :

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Indicates information that has changed from previously issued version.

Notice to reader

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16. Other information

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
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