



Simmler, Inc.
4564 North Square Drive
P.O. Box 350
High Ridge, MO, USA, 63049
Telephone: 636-376-8347

S0410-09 Fixing Solution/ S0412 Fetal Cell Stain Kit
SDS Revision Date (mm/dd/yyyy): 06/30/2016

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SECTION 1. IDENTIFICATION

Product identifier used on the label

: **S0410-09 Fixing Solution/ S0412 Fetal Cell Stain Kit**

Product Code(s) : None reported.

Recommended use of the chemical and restrictions on use

: Reagent
Use pattern: Professional Use Only
Recommended restrictions: None known.

Chemical family : Mixture

Name, address, and telephone number of the supplier:

Simmler, Inc.

4564 North Square Drive
P.O. Box 350
High Ridge, MO, USA
63049

Supplier's Telephone # : 636-376-8347

24 Hr. Emergency Tel # : 800-325-0786

Name, address, and telephone number of the manufacturer:

Refer to supplier

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Clear, colorless liquid. Mild odor.

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification

Flammable Liquids - Category 3

Serious eye damage/eye irritation - Category 2A

Specific Target Organ Toxicity, Single Exposure - Category 3 narcotic effects

Label elements

Hazard pictogram(s)



Signal Word

DANGER!

Hazard statement(s)

Flammable liquid and vapor.
Causes serious eye irritation.
May cause drowsiness or dizziness.



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Precautionary statement(s)

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Keep container tightly closed.
Ground and bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Wash thoroughly after handling.
Avoid breathing mist or vapours.
Use only outdoors or in a well-ventilated area.
Wear protective gloves and eye/face protection.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: get medical advice/attention.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.
In case of fire: Use water fog, dry chemical, CO₂ or 'alcohol' foam to extinguish.

Store in a well-ventilated place. Keep container tightly closed.
Keep cool.
Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards

Other hazards which do not result in classification:

Ingestion may cause irritation of the mouth, throat and stomach. May cause skin irritation. May cause respiratory irritation.

Environmental precautions:

Avoid release to the environment. See ECOLOGICAL INFORMATION, Section 12.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration (% by weight)</u>
Ethyl alcohol	Ethyl alcohol Ethyl hydrate	64-17-5	75.0 - 80.0
Isopropanol	Isopropyl alcohol 2-Propanol	67-63-0	1.0 - 5.0

The exact concentrations of the above listed chemicals are being withheld as a trade secret.

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

- Ingestion* : Do not induce vomiting. Rinse mouth thoroughly. Never give anything by mouth to an unconscious person. Get medical attention if symptoms persist.
- Inhalation* : Immediately remove person to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Call a POISON CENTER or doctor/physician if you feel unwell.



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Skin contact : Wash affected areas with soap and water. Take off contaminated clothing and wash before re-use. Get medical attention if irritation develops and persists.

Eye contact : Flush with large amounts of water for 15 minutes. Remove contact lenses, if present and easy to do. If irritation or symptoms develop, seek medical attention.

Most important symptoms and effects, both acute and delayed

- : Direct skin contact may cause temporary redness. Causes serious eye irritation. Symptoms may include redness, pain, tearing and conjunctivitis. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause irritation to the nose, throat and upper respiratory tract. May cause central nervous system effects. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects.

Indication of any immediate medical attention and special treatment needed

- : Treat symptomatically. This product is a CNS depressant.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

- : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

- : Do not use a solid water stream as it may scatter and spread fire.

Special hazards arising from the substance or mixture / Conditions of flammability

- : Flammable liquid and vapour. Vapors may form explosive mixtures with air. Vapors are heavier than air and may spread along floors. Vapors may travel considerable distance to a source of ignition and flash back.

Flammability classification (OSHA 29 CFR 1910.106)

- : Flammable Liquids - Category 3

Hazardous combustion products

- : Carbon dioxide and carbon monoxide.

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

- : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Special fire-fighting procedures

- : Evacuate personnel to safe areas. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame. Dike for water control. Avoid release to the environment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- : All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Keep all other personnel upwind and away from the spill/release. Restrict access to area until completion of clean-up. Refer to Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION, for additional information on acceptable personal protective equipment.

Environmental precautions : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. For large spills, dike the area to prevent spreading.

Methods and material for containment and cleaning up

- : Ventilate the area. Prevent further leakage or spillage if safe to do so. Use only non-sparking tools and equipment in the clean-up process. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Contact the proper local authorities.



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Special spill response procedures

- : If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).
 US CERCLA Reportable quantity (RQ): None.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

- : Use only outdoors or in a well-ventilated area. Wear protective gloves/clothing and eye/face protection. Ground/Bond container and receiving equipment. Use only non-sparking tools. Keep away from heat, open flames and hot surfaces. - No smoking. Avoid breathing mist or vapor. Avoid contact with skin, eyes and clothing. Label containers appropriately. Wash thoroughly after handling. Keep containers closed when not in use.

- Conditions for safe storage** : Store in a cool, dry, well-ventilated area. Store away from incompatibles and out of direct sunlight. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks.

- Incompatible materials** : Acids, oxidizing agents, halogens and halogenated compounds.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
	Ethyl alcohol	N/Av	1000 ppm	1000 ppm (1900 mg/m ³)
Isopropanol	200 ppm	400 ppm	400 ppm (980 mg/m ³)	N/Av

Exposure controls

Ventilation and engineering measures

- : Provide exhaust ventilation or other engineering controls to keep the airborne concentration of vapours below their respective threshold limit value. Use explosion-proof electrical and ventilating equipment.

- Respiratory protection** : Respiratory protection is required if the concentrations exceed the TLV. Use a NIOSH approved dust respirator if dust levels exceed exposure limits. Seek advice from respiratory protection specialists.

- Skin protection** : Wear protective gloves. Advice should be sought from glove suppliers.

- Eye / face protection** : Safety goggles or glasses as appropriate for the job. An eyewash station and safety shower should be made available in the immediate working area.

- Other protective equipment** : Wear suitable protective clothing.

General hygiene considerations

- : Avoid breathing mist or vapor. Avoid contact with skin, eyes and clothing. Do not eat, drink, smoke or use cosmetics while working with this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance** : Clear colourless liquid.



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Odour : Mild odor.
Odour threshold : No information available.
pH : Not available.
Melting/Freezing point : -114°C
Initial boiling point and boiling range
: 78°C
Flash point : 23°C
Flashpoint (Method) : closed cup
Evaporation rate (BuAe = 1) : 3.3
Flammability (solid, gas) : Not applicable.
Lower flammable limit (% by vol.)
: 3.3
Upper flammable limit (% by vol.)
: 19
Oxidizing properties : None known.
Explosive properties : Not explosive
Vapour pressure : 25°C
Vapour density : 1.6
Relative density / Specific gravity
: 0.82
Solubility in water : Soluble
Other solubility(ies) : No information available.
Partition coefficient: n-octanol/water or Coefficient of water/oil distribution
: Not available.
Auto-ignition temperature : No information available.
Decomposition temperature : No information available.
Viscosity : Not available.
Volatiles (% by weight) : No information available.
Volatile organic Compounds (VOC's)
: No information available.
Absolute pressure of container
: N/Ap
Flame projection length : N/Ap
Other physical/chemical comments
: None reported by the manufacturer.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not normally reactive.
Chemical stability : Stable under normal conditions.
Possibility of hazardous reactions
: Hazardous polymerization does not occur.
Conditions to avoid : Avoid contact with skin and eyes. Do not ingest. Avoid heat and open flame.
Incompatible materials : Avoid contact with incompatible materials. Incompatible materials (see Section 7).
Hazardous decomposition products
: None known, refer to hazardous combustion products in Section 5.



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SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation : YES
 Routes of entry skin & eye : YES
 Routes of entry Ingestion : YES
 Routes of exposure skin absorption : NO

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

: May cause irritation to the nose, throat and upper respiratory tract.

Sign and symptoms ingestion

: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Sign and symptoms skin

: May cause mild skin irritation on prolonged contact.

Sign and symptoms eyes

: Causes serious eye irritation. Symptoms may include redness, pain, tearing and conjunctivitis.

Potential Chronic Health Effects

: Prolonged or repeated contact with skin may cause irritation in some cases. Prolonged overexposure may cause liver and kidney effects.

Mutagenicity

: Not expected to be mutagenic.

Carcinogenicity

: No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects & Teratogenicity

: Not expected to have other reproductive effects.

Sensitization to material

: Not expected to be a skin or respiratory sensitizer.

Specific target organ effects

: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification: Specific Target Organ Toxicity, Single Exposure - Category 3 narcotic effects
 May cause drowsiness or dizziness.

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Medical conditions aggravated by overexposure

: None expected, when used as intended.

Synergistic materials

: No information available.

Toxicological data

: There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

<u>Chemical name</u>	<u>LC₅₀(4hr)</u> <u>inh, rat</u>	<u>LD₅₀</u>	
		<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Ethyl alcohol	> 32 380 ppm (61 mg/L) (vapour)	7060 mg/kg	> 15 800 mg/kg
Isopropanol	17 000 ppm (41.8 mg/L) (vapour)	4720 mg/kg	12 890 mg/kg

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Other important toxicological hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity : Not expected to be harmful to aquatic organisms. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

<u>Ingredients</u>	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Ethyl alcohol	64-17-5	> 100 mg/L (Fathead minnow)	N/Av	None.
Isopropanol	67-63-0	9640 mg/L (Fathead minnow)	N/Av	None.

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Ethyl alcohol	64-17-5	5012 mg/L (Daphnia magna)	N/Av	None.
Isopropanol	67-63-0	> 10 000 mg/L/24hr (Daphnia magna)	N/Av	None.

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Ethyl alcohol	64-17-5	1000 mg/L/96hr (Green algae)	N/Av	None.
Isopropanol	67-63-0	N/Av	N/Av	None.

Persistence and degradability

: No data is available on the product itself.

Bioaccumulation potential

: No data is available on the product itself.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Ethyl alcohol (CAS 64-17-5)	- 0.31	N/Av
Isopropanol (CAS 67-63-0)	0.05	1.0

Mobility in soil : No data is available on the product itself.

Other Adverse Environmental effects

: No data is available on the product itself.







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SECTION 13. DISPOSAL CONSIDERATIONS

- Handling for Disposal** : Handle waste according to recommendations in Section 7. Empty containers may contain hazardous residues.
- Methods of Disposal** : Dispose in accordance with all applicable federal, state, provincial and local regulations.
- RCRA** : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method.

SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
TDG	UN1993	FLAMMABLE LIQUID, N.O.S. (Ethanol, Isopropanol)	3	III	
TDG Additional information	May be shipped as LIMITED QUANTITY. Inner containers may not exceed 5 L; Each completed package may not exceed 30 kg gross weight.				
49CFR/DOT	UN1993	Flammable Liquids, n.o.s. (Ethanol, Isopropanol)	3	III	
49CFR/DOT Additional information	May be shipped as LIMITED QUANTITY when transported in cans no larger than 5 L, in packages not exceeding 30 kg gross mass.				
IMDG	UN1993	FLAMMABLE LIQUID, N.O.S. (Ethanol, Isopropanol)	3	III	
IMDG Additional information	Consult the IMDG regulations for exceptions.				
ICAO/IATA	UN1993	Flammable liquid, n.o.s. (Ethanol, Isopropanol)	3	III	
ICAO/IATA Additional information	Refer to ICAO/IATA Packing Instruction				

- Special precautions for user** : Appropriate advice on safety must accompany the package.
- Environmental hazards** : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.
- Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
 : This information is not available.



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SECTION 15 - REGULATORY INFORMATION

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

<u>Ingredients</u>	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Ethyl alcohol	64-17-5	Yes	None.	None.	No	N/Ap
Isopropanol	67-63-0	Yes	None.	None.	Yes	1%

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Fire, Acute health hazard.

US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

<u>Ingredients</u>	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Ethyl alcohol	64-17-5	Yes	Cancer (in alcoholic beverages) Developmental (in alcoholic beverages)	Yes	Yes	Yes	Yes	Yes	Yes
Isopropanol	67-63-0	No	N/Ap	Yes	Yes	Yes	Yes	Yes	Yes

Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

International Information:

Components listed below are present on the following International Inventory list:

<u>Ingredients</u>	CAS #	European EINECS	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Ethyl alcohol	64-17-5	200-578-6	Present	Present	(2)-202	KE-13217	Present	HSR001144
Isopropanol	67-63-0	200-661-7	Present	Present	(2)-207	KE-29363	Present	HSR001180

SECTION 16. OTHER INFORMATION

Legend

: ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Services



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CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980

CFR: Code of Federal Regulations

CNS: Central Nervous System

DOT: Department of Transportation

EPA: Environmental Protection Agency

EINECS: European Inventory of Existing Commercial chemical Substances

IARC: International Agency for Research on Cancer

IBC: Intermediate Bulk Container

IMDG: International Maritime Dangerous Goods

Inh: Inhalation

LC: Lethal Concentration

LD: Lethal Dose

N/Ap: Not Applicable

N/Av: Not Available

NIOSH: National Institute of Occupational Safety and Health

NTP: National Toxicology Program

OSHA: Occupational Safety and Health Administration

PEL: Permissible exposure limit

RCRA: Resource Conservation and Recovery Act

RTECS: Registry of Toxic Effects of Chemical Substances

SARA: Superfund Amendments and Reauthorization Act

STEL: Short Term Exposure Limit

TDG: Canadian Transportation of Dangerous Goods Act & Regulations

TLV: Threshold Limit Values

TWA: Time Weighted Average

WHMIS: Workplace Hazardous Materials Identification System

- References** :
1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2016
 2. International Agency for Research on Cancer Monographs, searched 2016
 3. Canadian Centre for Occupational Health and Safety, CCHInfoWeb databases, 2016(Chempendium, HSDB and RTECs).
 4. Material Safety Data Sheets from manufacturer.
 5. US EPA Title III List of Lists - 2016 version.
 6. California Proposition 65 List - 2016 version.
 7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal,2016.

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Other special considerations for handling

: Provide adequate information, instruction and training for operators.



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