



203CS2 Ninhydrin Fixative

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Substance
Substance name : 203CS2 Ninhydrin Fixative
Product code : 203CS2

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

Use of the substance/mixture : Laboratory chemical
Reagent

1.3. Details of the supplier of the safety data sheet

SIRCHIE Finger Print Laboratories
100 Hunter Place
Youngsville, NC 27596 - USA
T 919-554-2244; 800-356-7311 - F 919-554-2266; 800-899-8181
<http://www.sirchie.com>

1.4. Emergency telephone number

Emergency number : 1.800.424.9300

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Flam. Liq. 2 H225
Acute Tox. 3 (Oral) H301
Acute Tox. 3 (Dermal) H311
Acute Tox. 3 (Inhalation:vapour) H331
STOT SE 1 H370

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H225 - Highly flammable liquid and vapor
H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled
H370 - Causes damage to organs

Precautionary statements (GHS-US) :

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P233 - Keep container tightly closed
P240 - Ground/bond container and receiving equipment
P241 - Use explosion-proof electrical/ventilating/lighting/... equipment
P242 - Use only non-sparking tools
P243 - Take precautionary measures against static discharge
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P264 - Wash ... thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301+P310 - If swallowed: Immediately call a poison center/doctor/...
P302+P352 - If on skin: Wash with plenty of water/...
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P307+P311 - If exposed: Call a poison center/doctor/...
P311 - Call a poison center/doctor/...

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P312 - Call a poison center/doctor/... if you feel unwell
P321 - Specific treatment (see ... on this label)
P330 - Rinse mouth
P361 - Take off immediately all contaminated clothing
P363 - Wash contaminated clothing before reuse
P370+P378 - In case of fire: Use ... to extinguish
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P403+P235 - Store in a well-ventilated place. Keep cool
P405 - Store locked up
P501 - Dispose of contents/container to ...

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Name : 203CS2 Ninhydrin Fixative

Name	Product identifier	%	Classification (GHS-US)
methanol	(CAS No) 67-56-1	99	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 STOT SE 1, H370
copper(II)chloride	(CAS No) 7447-39-4	< 1	Acute Tox. 3 (Oral), H301 Skin Irrit. 2, H315 Eye Irrit. 2A, H319

Full text of H-phrases: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Allow victim to breathe fresh air. Allow the victim to rest.

First-aid measures after skin contact : Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention. Specific treatment (see ... on this label).

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Immediately call a poison center or doctor/physician. Specific treatment (see ... on this label).

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after skin contact : Repeated exposure to this material can result in absorption through skin causing significant health hazard. Toxic in contact with skin. Causes skin irritation.

Symptoms/injuries after eye contact : Causes serious eye damage.

Symptoms/injuries after ingestion : Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Flammable liquid and vapor.

Explosion hazard : May form flammable/explosive vapor-air mixture.

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5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking.

6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed : Handle empty containers with care because residual vapors are flammable.
- Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. No open flames. No smoking. Take precautionary measures against static discharge. Use only non-sparking tools.
- Hygiene measures : Wash ... thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/... equipment.
- Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Keep container tightly closed.
- Incompatible products : Strong bases. Strong acids.
- Incompatible materials : Sources of ignition. Direct sunlight. Heat sources.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

203CS2 Ninhydrin Fixative		
ACGIH	Not applicable	
OSHA	Not applicable	
methanol (67-56-1)		
ACGIH	ACGIH TWA (ppm)	200 ppm
ACGIH	ACGIH STEL (ppm)	200 ppm
OSHA	Not applicable	
copper(II)chloride (7447-39-4)		
ACGIH	Not applicable	

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copper(II)chloride (7447-39-4)

OSHA

Not applicable

8.2. Exposure controls

Personal protective equipment : Dust/aerosol mask. Gloves. Safety glasses.



Hand protection : Wear protective gloves.
Eye protection : Chemical goggles or safety glasses.
Skin and body protection : Wear suitable protective clothing.
Respiratory protection : Wear appropriate mask.
Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Appearance : Clear, colorless liquid.
Color : clear Colorless
Odor : Alcohol odour characteristic
Odor threshold : No data available
pH : No data available
Melting point : No data available
Freezing point : No data available
Boiling point : 64.7 °C
Flash point : 53.6 °C
Relative evaporation rate (butyl acetate=1) : No data available
Flammability (solid, gas) : No data available
Explosion limits : No data available
Explosive properties : Risk of explosion if heated under confinement. Heating may cause a fire.
Oxidizing properties : No data available
Vapor pressure : 96 mbar
Relative density : No data available
Relative vapor density at 20 °C : No data available
Solubility : Soluble in water.
Water: Solubility in water of component(s) of the mixture :
• : >= 100 g/100ml • : 43 g/100ml
Log Pow : No data available
Log Kow : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Viscosity : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Flammable liquid and vapor. Not established. May form flammable/explosive vapor-air mixture.

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10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Open flame. Sparks. Direct sunlight. Extremely high or low temperatures. Overheating. Heat.

10.5. Incompatible materials

Strong bases. Strong acids.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide. May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Toxic if swallowed. Dermal: Toxic in contact with skin. Inhalation:vapour: Toxic if inhaled.

203CS2 Ninhydrin Fixative	
ATE US (oral)	100.287 mg/kg body weight
ATE US (dermal)	303.030 mg/kg body weight
ATE US (vapors)	3.030 mg/l/4h
methanol (67-56-1)	
LD50 oral rat	> 5000 mg/kg (Rat; BASF test; Literature study; 1187-2769 mg/kg bodyweight; Rat; Weight of evidence)
LD50 dermal rabbit	15800 mg/kg (Rabbit; Literature study)
LC50 inhalation rat (mg/l)	85 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	64000 ppm/4h (Rat; Literature study)
ATE US (oral)	100.000 mg/kg body weight
ATE US (dermal)	300.000 mg/kg body weight
ATE US (gases)	700.000 ppmV/4h
ATE US (vapors)	3.000 mg/l/4h
ATE US (dust, mist)	0.500 mg/l/4h
copper(II)chloride (7447-39-4)	
LD50 oral rat	140 mg/kg body weight (Rat; Literature study; 584 mg/kg bodyweight; Rat; Experimental value)
LD50 dermal rat	> 2000 mg/kg body weight (Rat; Read-across; OECD 402: Acute Dermal Toxicity; 1224 mg/kg bodyweight; Rat; Read-across; OECD 402: Acute Dermal Toxicity)
ATE US (oral)	140.000 mg/kg body weight

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
	Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
	Based on available data, the classification criteria are not met
Specific target organ toxicity (single exposure)	: Causes damage to organs.
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Symptoms/injuries after skin contact	: Repeated exposure to this material can result in absorption through skin causing significant health hazard. Toxic in contact with skin. Causes skin irritation.
Symptoms/injuries after eye contact	: Causes serious eye damage.
Symptoms/injuries after ingestion	: Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

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SECTION 12: Ecological information

12.1. Toxicity

methanol (67-56-1)	
LC50 fish 1	15400 mg/l (96 h; <i>Lepomis macrochirus</i> ; Lethal)
EC50 Daphnia 1	> 10000 mg/l (48 h; <i>Daphnia magna</i> ; Lethal)
LC50 fish 2	10800 mg/l 96 h; <i>Salmo gairdneri</i> (<i>Oncorhynchus mykiss</i>)
EC50 Daphnia 2	24500 mg/l (48 h; <i>Daphnia magna</i> ; Locomotor effect)
Threshold limit other aquatic organisms 1	6600 mg/l (16 h; <i>Pseudomonas putida</i>)
Threshold limit algae 1	530 mg/l (192 h; <i>Microcystis aeruginosa</i>)
Threshold limit algae 2	8000 mg/l (168 h; <i>Scenedesmus quadricauda</i>)
copper(II)chloride (7447-39-4)	
LC50 fish 1	0.046 mg/l (96 h; <i>Oncorhynchus kisutch</i> ; Soft water)
EC50 Daphnia 1	0.069 mg/l (48 h; <i>Daphnia magna</i> ; Hard water)
LC50 fish 2	0.08 - 0.5 mg/l (96 h; <i>Salmo gairdneri</i> (<i>Oncorhynchus mykiss</i>); Hard water)
EC50 Daphnia 2	0.026 mg/l (48 h; <i>Daphnia magna</i> ; Soft water)
Threshold limit algae 1	7 mg/l (72 h; <i>Chlorella vulgaris</i> ; Growth)
Threshold limit algae 2	0.085 mg/l (14 days; <i>Selenastrum capricornutum</i> ; Cell numbers)

12.2. Persistence and degradability

203CS2 Ninhydrin Fixative	
Persistence and degradability	Not established.
methanol (67-56-1)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil.
Biochemical oxygen demand (BOD)	0.6 - 1.12 g O ₂ /g substance
Chemical oxygen demand (COD)	1.42 g O ₂ /g substance
ThOD	1.5 g O ₂ /g substance
BOD (% of ThOD)	0.8 % ThOD
copper(II)chloride (7447-39-4)	
Persistence and degradability	Biodegradability: not applicable. Biodegradability in soil: not applicable. No (test) data on mobility of the substance available.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

12.3. Bioaccumulative potential

203CS2 Ninhydrin Fixative	
Bioaccumulative potential	Not established.
methanol (67-56-1)	
BCF fish 1	< 10 (72 h; <i>Leuciscus idus</i>)
BCF fish 2	1 (72 h; <i>Cyprinus carpio</i> ; Blood)
Log Pow	-0.77 (Experimental value; Other)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
copper(II)chloride (7447-39-4)	
BCF fish 1	290 (<i>Pimephales promelas</i> ; Copper ion)
BCF other aquatic organisms 1	17700 (<i>Corbicula</i> sp.; Copper ion)
BCF other aquatic organisms 2	471 (148 h; <i>Daphnia magna</i> ; Fresh weight)
Bioaccumulative potential	High potential for bioaccumulation (BCF > 5000).

12.4. Mobility in soil

methanol (67-56-1)	
Surface tension	0.023 N/m (20 °C)

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12.5. Other adverse effects

Effect on the global warming : No known ecological damage caused by this product.

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to ...

Additional information : Handle empty containers with care because residual vapors are flammable.

Ecology - waste materials : Avoid release to the environment. Hazardous waste due to toxicity.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Proper Shipping Name (DOT) : Methanol
Flammable liquid

Department of Transportation (DOT) Hazard Classes : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

Hazard labels (DOT) : 3 - Flammable liquid
6.1 - Poison inhalation hazard



Packing group (DOT) : II - Medium Danger

Additional information

Other information : No supplementary information available.

ADR

Class (ADR) : 3 - Flammable liquid

Hazard labels (ADR) : 6.1 - Toxic substances
3 - Flammable liquids



Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

203CS2 Ninhydrin Fixative

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Listed on United States SARA Section 313

SARA Section 313 - Emission Reporting	100 %
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15.2. International regulations

CANADA

No additional information available

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EU-Regulations

No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flam. Liq. 3 H226
Acute Tox. 3 (Oral) H301
Acute Tox. 3 (Dermal) H311
STOT SE 1 H370
Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

T; R23/24/25
T; R39/23/24/25
R10

Full text of R-phrases: see section 16

National regulations

No additional information available

15.3. US State regulations

203CS2 Ninhydrin Fixative()	
U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	Yes
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No

SECTION 16: Other information

Indication of changes	: Revision - See : *
Data sources	: REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.
Training advice	: Normal use of this product shall imply use in accordance with the instructions on the packaging.
Other information	: None.

Full text of H-phrases:

Acute Tox. 3 (Dermal)	Acute toxicity (dermal) Category 3
Acute Tox. 3 (Inhalation)	Acute toxicity (inhalation) Category 3
Acute Tox. 3 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 2	Flammable liquids Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT SE 1	Specific target organ toxicity (single exposure) Category 1
H225	Highly flammable liquid and vapor
H301	Toxic if swallowed
H311	Toxic in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H331	Toxic if inhaled
H370	Causes damage to organs

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NFPA health hazard

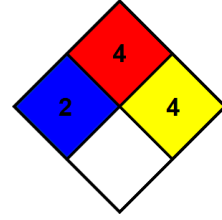
: 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard

: 4 - Will rapidly or completely vaporize at normal pressure and temperature, or is readily dispersed in air and will burn readily.

NFPA reactivity

: 4 - Readily capable of detonation or of explosive decomposition or reaction at normal temperatures and pressures.



HMIS III Rating

Health

: 2 Moderate Hazard - Temporary or minor injury may occur

Flammability

: 4 Severe Hazard - Flammable gases, or very volatile flammable liquids with flash points below 73 F, and boiling points below 100 F. Materials may ignite spontaneously with air. (Class IA)

Physical

: 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

Personal Protection

: G

G - Safety glasses, Gloves, Vapor respirator

SDS US (GHS HazCom 2012)

The information above 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, expressed or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.