

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
 Product name : 201C Ninhydrin Spray, 16 oz.  
 Product code : 201C

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

Use of the substance/mixture : Latent fingerprint developer

#### 1.3. Details of the supplier of the safety data sheet

SIRCHIE  
 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  
 CHEMTREC: 1.800.424.9300

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Flammable liquids Category 2 H225  
 Skin corrosion/irritation Category 2 H315  
 Serious eye damage/eye irritation Category 2A H319

Full text of H statements : 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  
 H315 - Causes skin irritation  
 H319 - Causes serious eye irritation

Precautionary statements (GHS-US) :

P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking  
 P233 - Keep container tightly closed  
 P240 - Ground/bond container and receiving equipment  
 P241 - Use explosion-proof storage containers equipment  
 P242 - Use only non-sparking tools  
 P243 - Take precautionary measures against static discharge  
 P264 - Wash hands, exposed skin thoroughly after handling  
 P280 - Wear eye protection, protective gloves  
 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  
 P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 P321 - Specific treatment (see contact a physician on this label)  
 P332+P313 - If skin irritation occurs: Get medical advice/attention  
 P337+P313 - If eye irritation persists: Get medical advice/attention  
 P362+P364 - Take off contaminated clothing and wash it before reuse  
 P370+P378 - In case of fire: Use ABC-powder to extinguish  
 P403+P235 - Store in a well-ventilated place. Keep cool  
 P501 - Dispose of contents/container to local/regional/national/international regulations

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### 2.3. Other hazards

Other hazards not contributing to the classification : Toxicity of this product has not been fully tested.

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substance

Not applicable

### 3.2. Mixture

Name	Product identifier	%	GHS-US classification
Petroleum gases, liquefied, sweetened	(CAS No) 68476-86-8	50 - 55	Not classified
xylene, mixture of isomers	(CAS No) 1330-20-7	20 - 25	Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315
ethanol	(CAS No) 64-17-5	10 - 15	Flam. Liq. 2, H225
ethyl acetate	(CAS No) 141-78-6	10 - 15	Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H336
ninhydrine	(CAS No) 485-47-2	0.01	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335

Full text of H-phrases: see section 16

## 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. Cough.

First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist. Direct contact with the eyes is likely to be irritating.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

Symptoms/injuries after inhalation : Shortness of breath.

### 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 aerosol. Flammable liquid and vapor. May cause fire or explosion; strong oxidizer.

Explosion hazard : Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries. May form flammable/explosive vapor-air mixture.

Reactivity : No reactivity hazard other than the effects described in sub-sections below.

### 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. DO NOT fight fire when fire reaches explosives. Evacuate area. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

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 : No open flames. No smoking. Isolate from fire, if possible, without unnecessary risk. Remove ignition sources. Use special care to avoid static electric charges.

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### 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. In use, may form flammable vapor-air mixture. Pressurized container: Do not pierce or burn, even after use. Hazardous waste due to potential risk of explosion.

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. Do not spray on an open flame or other ignition source. No open flames. No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. Take any precaution to avoid mixing with combustibles/..

### 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 : Do not expose to temperatures exceeding 50 °C/ 122 °F. Keep in fireproof place. Keep container tightly closed.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight. Heat sources. Combustible materials.

Storage area : Store in a well-ventilated place.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

ninhydrine (485-47-2)		
Not applicable		
ethanol (64-17-5)		
ACGIH	ACGIH STEL (ppm)	1000 ppm (Ethanol; USA; Short time value; TLV - Adopted Value)
ethyl acetate (141-78-6)		
ACGIH	ACGIH TWA (ppm)	400 ppm (Ethyl acetate; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
Not applicable		
xylene, mixture of isomers (1330-20-7)		
Not applicable		
Petroleum gases, liquefied, sweetened (68476-86-8)		
Not applicable		

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### 8.2. Exposure controls

Personal protective equipment : Dust/aerosol mask. Gloves. Safety glasses. Avoid all unnecessary exposure. Wear fire/flammable resistant/retardant clothing.



Hand protection : Wear protective gloves.  
Eye protection : Chemical goggles or safety glasses.  
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, volatile liquid.  
Color : Colorless  
Odor : Irritating/pungent odour  
Odor threshold : No data available  
pH : No data available  
Melting point : No data available  
Freezing point : No data available  
Boiling point : No data available  
Flash point : No data available  
Relative evaporation rate (butyl acetate=1) : No data available  
Flammability (solid, gas) : No data available  
Explosion limits : No data available  
Explosive properties : No data available  
Oxidizing properties : May cause fire or explosion; strong oxidizer.  
Vapor pressure : No data available  
Relative density : No data available  
Relative vapor density at 20 °C : No data available  
Solubility : Insoluble in water.  
Water: Solubility in water of component(s) of the mixture :  
• ninhydrine: 2 g/100ml • ethanol: Complete • ethyl acetate: 8 g/100ml (25 °C) • xylene, mixture of isomers: < 0.02 g/100ml  
Log Pow : 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 reactivity hazard other than the effects described in sub-sections below.

### 10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7). Flammable aerosol. Contains gas under pressure; may explode if heated. Extreme risk of explosion by shock, friction, fire or other sources of ignition. Flammable liquid and vapor. May form flammable/explosive vapor-air mixture. May cause fire or explosion; strong oxidizer.

### 10.3. Possibility of hazardous reactions

Not established.

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### 10.4. Conditions to avoid

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

### 10.5. Incompatible materials

Strong acids. Strong bases.

### 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 : Not classified

<b>ninhydrine (485-47-2)</b>	
LD50 oral rat	600 mg/kg (Rat)
ATE US (oral)	600.000 mg/kg body weight
<b>ethanol (64-17-5)</b>	
LD50 oral rat	10740 mg/kg body weight (Rat; OECD 401: Acute Oral Toxicity; Experimental value)
LD50 dermal rabbit	> 16000 mg/kg (Rabbit; Literature study)
<b>ethyl acetate (141-78-6)</b>	
LD50 oral rat	5620 mg/kg (Rat; Equivalent or similar to OECD 401; Experimental value; 10200 mg/kg bodyweight; Rat)
LD50 dermal rabbit	> 18000 mg/kg (Rabbit; Experimental value; 24 hour cuff method; >20000 mg/kg bodyweight; Rabbit)
LC50 inhalation rat (mg/l)	70.56 mg/l/4h (Rat)
LC50 inhalation rat (ppm)	19600 ppm/4h (Rat)
ATE US (oral)	5620.000 mg/kg body weight
ATE US (gases)	19600.000 ppmV/4h
ATE US (vapors)	70.560 mg/l/4h
ATE US (dust, mist)	70.560 mg/l/4h
<b>xylene, mixture of isomers (1330-20-7)</b>	
LD50 oral rat	3523 - 8600 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Literature study; 3523 mg/kg bodyweight; Rat; OECD 401: Acute Oral Toxicity; Experimental value; >4000 mg/kg bodyweight; Rat; OECD 401: Acute Oral Toxicity; Experimental value)
LD50 dermal rabbit	> 4200 mg/kg body weight (Rabbit; Experimental value; OECD 402: Acute Dermal Toxicity)
LC50 inhalation rat (mg/l)	29 mg/l/4h (Rat; Experimental value; 27.57 mg/l/4h; Rat; Experimental value)
ATE US (oral)	3523.000 mg/kg body weight
ATE US (dermal)	1100.000 mg/kg body weight
ATE US (gases)	4500.000 ppmV/4h
ATE US (vapors)	11.000 mg/l/4h
ATE US (dust, mist)	1.500 mg/l/4h

Skin corrosion/irritation : Causes skin irritation.  
Serious eye damage/irritation : Causes serious eye irritation.  
Respiratory or skin sensitization : Not classified  
Germ cell mutagenicity : Not classified  
Based on available data, the classification criteria are not met  
Carcinogenicity : Not classified

<b>ethanol (64-17-5)</b>	
Additional information	Ethyl alcohol (200 Proof) has been shown to cause cancer in Human and Animals when ingested in volume over time. There is no link to cancer in limited exposure scenarios.
IARC group	1 - Carcinogenic to humans

<b>xylene, mixture of isomers (1330-20-7)</b>	
IARC group	3 - Not classifiable

Reproductive toxicity : Not classified  
Based on available data, the classification criteria are not met

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Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Symptoms/injuries after inhalation	: Shortness of breath.

## SECTION 12: Ecological information

### 12.1. Toxicity

<b>ethanol (64-17-5)</b>	
LC50 fish 1	14200 mg/l (LC50; US EPA; 96 h; Pimephales promelas; Flow-through system; Fresh water; Experimental value)
<b>ethyl acetate (141-78-6)</b>	
LC50 fish 2	230 mg/l (LC50; US EPA; 96 h; Pimephales promelas; Flow-through system; Fresh water; Experimental value)
EC50 Daphnia 2	154 mg/l (EC50; 48 h; Daphnia magna)

### 12.2. Persistence and degradability

<b>201C Ninhydrin Spray,16 oz.</b>	
Persistence and degradability	Not established.
<b>ninhydrine (485-47-2)</b>	
Persistence and degradability	Biodegradability in water: no data available.
ThOD	1.53 g O <sub>2</sub> /g substance
<b>ethanol (64-17-5)</b>	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil.
Biochemical oxygen demand (BOD)	0.8 - 0.967 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	1.70 g O <sub>2</sub> /g substance
ThOD	2.10 g O <sub>2</sub> /g substance
BOD (% of ThOD)	0.43
<b>ethyl acetate (141-78-6)</b>	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Low potential for adsorption in soil.
Biochemical oxygen demand (BOD)	0.293 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	1.69 g O <sub>2</sub> /g substance
ThOD	1.82 g O <sub>2</sub> /g substance
<b>xylene, mixture of isomers (1330-20-7)</b>	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. No (test) data on mobility of the substance available. Photolysis in the air.

### 12.3. Bioaccumulative potential

<b>201C Ninhydrin Spray,16 oz.</b>	
Bioaccumulative potential	Not established.
<b>ninhydrine (485-47-2)</b>	
Bioaccumulative potential	No bioaccumulation data available.
<b>ethanol (64-17-5)</b>	
BCF fish 1	1 (BCF; Other; 72 h; Cyprinus carpio; Static system; Fresh water; Read-across)
Log Pow	-0.31 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

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<b>ethyl acetate (141-78-6)</b>	
BCF fish 1	30 (BCF; 3 days; Leuciscus idus; Static system)
Log Pow	0.68 (Experimental value; EPA OPPTS 830.7560; 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
<b>xylene, mixture of isomers (1330-20-7)</b>	
BCF fish 2	7 - 26 (BCF; 8 weeks; Oncorhynchus mykiss; Flow-through system; Fresh water)
Log Pow	3.2 (Conclusion by analogy; 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

### 12.4. Mobility in soil

<b>ethanol (64-17-5)</b>	
Surface tension	0.022 N/m (20 °C)
Log Koc	Koc,PCKOCWIN v1.66; 1; Read-across
<b>ethyl acetate (141-78-6)</b>	
Surface tension	0.024 N/m (20 °C)
<b>xylene, mixture of isomers (1330-20-7)</b>	
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.

### 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. Container under pressure. Do not drill or burn even after use. Dispose of contents/container to ..

Additional information : Flammable vapors may accumulate in the container. Handle empty containers with care because residual vapors are flammable. Hazardous waste due to potential risk of explosion.

Ecology - waste materials : Avoid release to the environment.

## SECTION 14: Transport information

### Department of Transportation (DOT)

In accordance with DOT

Transport document description : 1950 Consumer commodity (Xylene), 2.1, III

UN-No.(DOT) : 1950

Proper Shipping Name (DOT) : Consumer commodity  
Xylene

Class (DOT) : 2.1 - Class 2.1 - Flammable gas 49 CFR 173.115

Hazard labels (DOT) : 6.1 - Poison  
2.1 - Flammable gas



Packing group (DOT) : III - Minor Danger

Other information : No supplementary information available.

### TDG

No additional information available

### Transport by sea

No additional information available

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### Air transport

UN-No. (IATA)	: 1950
Proper Shipping Name (IATA)	: Aerosols, flammable, containing substances in Division 6.1, Packing Group iii
Class (IATA)	: 2.1 - Gases : Flammable
Packing group (IATA)	: III - Minor Danger
Subsidiary risks (IATA)	: Containing substances in Division 6.1

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

No additional information available

### 15.2. International regulations

#### CANADA

No additional information available

#### EU-Regulations

No additional information available

### National regulations

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Listed on IARC (International Agency for Research on Cancer)

### 15.3. US State regulations

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U.S. - California - Proposition 65 - Carcinogens List	Yes
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No

## SECTION 16: Other information

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.

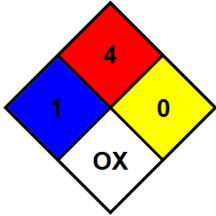
Full text of H-phrases:

H225	Highly flammable liquid and vapor
H226	Flammable liquid and vapor
H302	Harmful if swallowed
H312	Harmful in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H332	Harmful if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness

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NFPA health hazard	: 1 - Exposure could cause irritation but only minor residual injury even if no treatment 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	: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.	
NFPA specific hazard	: OX - This denotes an oxidizer, a chemical which can greatly increase the rate of combustion/fire.	
HMIS III Rating		
Health	: 1 Slight Hazard - Irritation or minor reversible injury possible	
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	: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.	
Personal Protection	: G G - Safety glasses, Gloves, Vapor respirator	

SDS US (GHS HazCom 2012)

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