

## Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 08/12/2016

Reviewed on 08/12/2016

### 1 Identification

- **Product Identifier**
- **Trade name:** FLUOSOLV CX
- **Product Number:** FX-CX
- **Relevant identified uses of the substance or mixture and uses advised against:**  
Vapor degreasing. For professional use only.
- **Product Description** Azeotrope vapor degreasing solvent blend.
- **Application of the substance / the mixture:** Vapor degreasing mixture.
- **Details of the Supplier of the Safety Data Sheet:**
- **Manufacturer/Supplier:**  
NuGeneration Technologies, LLC (dba NuGenTec)  
1155 Park Ave, Emeryville, CA 94608  
fluosolv@nugentec.com  
For Product Info call 1-(800) 409-3142  
www.fluosolv.com  
www.nugentec.com/fluosolv
- **Emergency telephone number:**  
PERS Emergency Response: Domestic and Canada - 1-800-633-8253, International 1-801-629-0667

### 2 Hazard(s) Identification

- **Classification of the substance or mixture:**



GHS07

Acute Tox. 4      H302 Harmful if swallowed.

Acute Tox. 4      H332 Harmful if inhaled.

Aquatic Chronic 3      H412 Harmful to aquatic life with long lasting effects.

- **Label elements:**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms:**



GHS07

- **Signal word:** Warning

- **Hazard-determining components of labeling:**

trans-dichloroethylene

Proprietary

- **Hazard statements:**

H302+H332 Harmful if swallowed or if inhaled.

H412 Harmful to aquatic life with long lasting effects.

- **Precautionary statements:**

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.

P271 Use only outdoors or in a well-ventilated area.

(Contd. on page 2)

US

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- P273 Avoid release to the environment.
- P264 Wash thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P330 Rinse mouth.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

• **Unknown acute toxicity:**

20 % of the mixture consists of component(s) of unknown toxicity.

• **Classification system:**

• **NFPA ratings (scale 0 - 4)**



• **HMIS-ratings (scale 0 - 4)**



• **Hazard(s) not otherwise classified (HNOC):** None known

## 3 Composition/Information on Ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture: consisting of the following components.

• **Dangerous Components:**

CAS: 156-60-5 RTECS: KV 9400000	trans-dichloroethylene ⚠ Flam. Liq. 2, H225; ⚠ Acute Tox. 4, H332; Aquatic Chronic 3, H412	Proprietary%
	Proprietary ⚠ Acute Tox. 4, H302; Flam. Liq. 4, H227	10%
CAS: 163702-08-7	Methyl nonafluoroisobutyl ether Aquatic Chronic 3, H412	Proprietary%
CAS: 163702-07-6	Methyl nonafluorobutyl ether Aquatic Chronic 3, H412	Proprietary%

## 4 First-Aid Measures

- **Description of first aid measures:**
- **General information:** Take affected persons out into the fresh air.
- **After inhalation:**  
Supply fresh air. If required, provide artificial respiration. Consult doctor if symptoms persist.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.

(Contd. on page 3)

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- **After swallowing:** If swallowed and symptoms occur, consult a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed:**  
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed:**  
No further relevant information available.

### 5 Fire-Fighting Measures

- **Extinguishing media:**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture:** No further relevant information available.
- **Advice for firefighters:**
- **Protective equipment:**  
Mouth respiratory protective device.  
As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear to prevent contact with skin and eyes.

### 6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures:**  
Keep away from ignition sources
- **Environmental precautions:** Do not allow to enter sewers/surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (i.e. sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to section 13.  
Ensure adequate ventilation.
- **Reference to other sections:**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### 7 Handling and Storage

- **Handling**
- **Precautions for safe handling:**  
Avoid contact with skin, eyes and clothing  
Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:**  
Do not spray on a naked flame or any incandescent material.
- **Conditions for safe storage, including any incompatibilities:**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.

(Contd. on page 4)

US

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- **Specific end use(s):** No further relevant information available.

### 8 Exposure Controls/Personal Protection

- **Additional information about design of technical systems:** No further data; see section 7.

- **Control parameters:**

- **Components with occupational exposure limits:**

**156-60-5 trans-dichloroethylene**

PEL Long-term value: 790 mg/m<sup>3</sup>, 200 ppm

REL Long-term value: 790 mg/m<sup>3</sup>, 200 ppm

TLV Long-term value: 793 mg/m<sup>3</sup>, 200 ppm

**Proprietary**

TWA 1000 ppm (manufacturer determined)

**163702-07-6 Methyl nonafluorobutyl ether**

TWA 750 ppm (AIHA)

**163702-08-7 Methyl nonafluoroisobutyl ether**

TWA 750 ppm (AIHA)

- **Additional information:** The lists that were valid during the creation of this SDS were used as basis.

- **Exposure controls:**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

- **Breathing equipment:** Not necessary if room is well-ventilated.

- **Protection of hands:** Not required.

- **Material of gloves:** Not required.

- **Penetration time of glove material:** Not applicable.

- **Eye protection:**



Goggles recommended during refilling.

### 9 Physical and Chemical Properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

**Form:**

Liquid

**Color:**

Colorless

- **Odor:**

Weak, characteristic

- **Odor threshold:**

Not determined.

(Contd. on page 5)

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<ul style="list-style-type: none"> <li>· <b>Change in condition</b></li> </ul>	
<ul style="list-style-type: none"> <li><b>Melting point/Melting range:</b></li> <li><b>Boiling point/Boiling range:</b></li> </ul>	<ul style="list-style-type: none"> <li>Not determined.</li> <li>41 °C (106 °F)</li> </ul>
<ul style="list-style-type: none"> <li>· <b>Flash point:</b></li> </ul>	<ul style="list-style-type: none"> <li>None</li> </ul>
<ul style="list-style-type: none"> <li>· <b>Flammability (solid, gaseous):</b></li> </ul>	<ul style="list-style-type: none"> <li>Not applicable.</li> </ul>
<ul style="list-style-type: none"> <li>· <b>Ignition temperature:</b></li> </ul>	<ul style="list-style-type: none"> <li>440 °C (824 °F)</li> </ul>
<ul style="list-style-type: none"> <li>· <b>Decomposition temperature:</b></li> </ul>	<ul style="list-style-type: none"> <li>≥ 200 deg C (392 deg F)</li> </ul>
<ul style="list-style-type: none"> <li>· <b>Auto igniting:</b></li> </ul>	<ul style="list-style-type: none"> <li>Product is not self-igniting.</li> </ul>
<ul style="list-style-type: none"> <li>· <b>Danger of explosion:</b></li> </ul>	<ul style="list-style-type: none"> <li>Product does not present an explosion hazard.</li> </ul>
<ul style="list-style-type: none"> <li>· <b>Explosion limits:</b></li> </ul>	
<ul style="list-style-type: none"> <li><b>Lower:</b></li> <li><b>Upper:</b></li> </ul>	<ul style="list-style-type: none"> <li>9.7 Vol %</li> <li>12.8 Vol %</li> </ul>
<ul style="list-style-type: none"> <li>· <b>Vapor pressure @ 20 °C (68 °F):</b></li> </ul>	<ul style="list-style-type: none"> <li>453.3 hPa (340 mm Hg)</li> </ul>
<ul style="list-style-type: none"> <li>· <b>Density @ 20 °C (68 °F):</b></li> <li>· <b>Vapor density @ 20 °C (68 °F):</b></li> <li>· <b>Evaporation rate @ 20 °C (68 °F):</b></li> </ul>	<ul style="list-style-type: none"> <li>1.29 g/ml (10.8 lbs/gal)</li> <li>3.1 g/cm<sup>3</sup> (25.87 lbs/gal) (Air=1)</li> <li>&lt;1 (nBuAc=1)</li> </ul>
<ul style="list-style-type: none"> <li>· <b>Solubility in / Miscibility with:</b></li> </ul>	
<ul style="list-style-type: none"> <li><b>Water:</b></li> </ul>	<ul style="list-style-type: none"> <li>Not miscible or difficult to mix.</li> <li>Not miscible (100 ppm max)</li> </ul>
<ul style="list-style-type: none"> <li>· <b>Partition coefficient (n-octanol/water):</b></li> </ul>	<ul style="list-style-type: none"> <li>Not determined.</li> </ul>
<ul style="list-style-type: none"> <li>· <b>Viscosity:</b></li> </ul>	
<ul style="list-style-type: none"> <li><b>Dynamic @ 20 °C (68 °F):</b></li> <li><b>Kinematic @ 20 °C (68 °F):</b></li> </ul>	<ul style="list-style-type: none"> <li>0.45 mPas</li> <li>0.45 cPs</li> </ul>
<ul style="list-style-type: none"> <li>· <b>Solvent content:</b></li> <li>· <b>VOC content:</b></li> <li>· <b>Other information:</b></li> </ul>	<ul style="list-style-type: none"> <li>1035 g/l (SCAQMD methodology)</li> <li>No further relevant information available.</li> </ul>

### 10 Stability and Reactivity

- **Reactivity:** No further relevant information available.
- **Chemical stability:** Stable under normal conditions.
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **Possibility of hazardous reactions:** No dangerous reactions known.
- **Conditions to avoid:** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

US

(Contd. on page 6)

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### 11 Toxicological Information

- **Information on toxicological effects:**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

**156-60-5 trans-dichloroethylene**

Oral | LD50 | 770 mg/kg (rat)

- **Primary irritant effect:**

- **On the skin:** No irritating effect.

- **On the eye:** No irritating effect.

- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful

- **Carcinogenic categories:**

- **IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

- **NTP (National Toxicology Program):**

None of the ingredients are listed.

- **OSHA-Ca (Occupational Safety & Health Administration):**

None of the ingredients are listed.

### 12 Ecological Information

- **Toxicity:** The hazards for the aquatic environment are unknown.

- **Aquatic toxicity:**

Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.

- **Persistence and degradability:** No further relevant information available.

- **Behavior in environmental systems:**

- **Bioaccumulative potential:** No further relevant information available.

- **Mobility in soil:** No further relevant information available.

- **Ecotoxicological effects:**

- **Remark:** Harmful to fish

- **Additional ecological information:**

- **General notes:**

Do not allow undiluted product or product that has not been neutralized to reach ground water, water course or sewage system.

Harmful to aquatic organisms

- **Results of PBT and vPvB assessment:**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects:** No further relevant information available.

US

(Contd. on page 7)

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### 13 Disposal Considerations

- **Waste treatment methods:**
- **Recommendation:**  
Contact manufacturer for recycling information.  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings**
- **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport Information

<b>UN-Number:</b>	
<b>DOT, ADR, ADN, IMDG, IATA</b>	Non-Regulated Material
<b>UN proper shipping name:</b>	
<b>DOT, ADR, ADN, IMDG, IATA</b>	Non-Regulated Material
<b>Transport hazard class(es):</b>	
<b>DOT, ADR, ADN, IMDG, IATA</b>	
<b>Class:</b>	Non-Regulated Material
<b>Packing group:</b>	
<b>DOT, ADR, IMDG, IATA</b>	Non-Regulated Material
<b>Environmental hazards:</b>	Not applicable.
<b>Special precautions for user:</b>	Not applicable.
<b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:</b>	Not applicable.
<b>UN "Model Regulation":</b>	Non-Regulated Material

### 15 Regulatory Information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture:**
- **SARA (Superfund Amendments and Reauthorization):**

- **Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

- **Section 313 (Specific toxic chemical listings):**

None of the ingredients are listed.

- **TSCA (Toxic Substances Control Act):**

All ingredients are listed or exempt from listing.

- **California Proposition 65:**

- **Chemicals known to cause cancer:**

None of the ingredients are listed.

(Contd. on page 8)

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· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

· **Carcinogenic categories:**

· **EPA (Environmental Protection Agency):**

156-60-5 trans-dichloroethylene

//

· **TLV (Threshold Limit Value established by ACGIH):**

None of the ingredients are listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health):**

None of the ingredients are listed.

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms:**



GHS07

· **Signal word:** Warning

· **Hazard-determining components of labeling:**

trans-dichloroethylene

Proprietary

· **Hazard statements:**

H302+H332 Harmful if swallowed or if inhaled.

H412 Harmful to aquatic life with long lasting effects.

· **Precautionary statements:**

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.

P271 Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment.

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P330 Rinse mouth.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **National regulations:**

The product is subject to be classified according with the latest version of the regulations on hazardous substances.

(Contd. on page 9)

US

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· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other Information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

· **Date of preparation / last revision:** 08/12/2016 / -

· **Abbreviations and acronyms:**

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road

ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Flam. Liq. 2: Flammable liquids – Category 2

Flam. Liq. 4: Flammable liquids – Category 4

Acute Tox. 4: Acute toxicity – Category 4

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

· **\* Data compared to the previous version altered.**

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