

Safety Data Sheet

OSHA HazCom Standard 29 CFR 1910.1200(g) revised in 2024 and GHS Rev
07

Date of issue: 07/01/2025

Revised on 07/01/2025

1 Identification

- **Product Identifier**
- **Trade Name:** FLUOSOLV CX
- **Other means of identification**
- **Product Number:** ng-FCX
- **Relevant identified uses of the substance or mixture and uses advised against:**
Vapor degreasing. Industrial use only.
- **Product Description:** Azeotropic vapor degreasing solvent blend.
- **Application of the substance / the mixture:** Precision Cleaning in vapor degreasing equipment
- **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: US and Canada - 1-800-633-8253, International 1-801-629-0667

2 Hazard(s) Identification

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



Specific target organ toxicity (single exposure) 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

Eye irritation 2B

H320

Causes eye irritation.

- **Label elements:**
- **Hazard pictograms:**



- **Signal word:** Warning
- **Hazard statements:**
H320 Causes eye irritation.
H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.
- **Precautionary statements:**
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.
P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.

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- P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.
 P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P337+P313 If eye irritation persists: Get medical advice/attention.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Unknown acute toxicity:**

This value refers to knowledge of known, established toxicological or ecotoxicological values.

0 % of the mixture consists of component(s) of unknown toxicity.

· **Information pertaining to particular dangers for man and environment:**

· **Classification system:** NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme

· **NFPA ratings (scale 0 - 4)**



Health = 2
 Fire = 0
 Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 2
 Fire = 0
 Physical Hazard = 0

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

· **Classification according to (d)(1)(ii) of § 1910.1200**

The SDS issuer does not object to the classifications provided by importers or manufacturers of precursor products.

· **Hazards not otherwise classified**

There are no adverse physical or health effects known that are not covered by the hazard classes of the Hazard Communications Standard.

3 Composition/Information on Ingredients

· **Non-hazardous components:**

Proprietary Fluorinated Mixture	7-13%
Other solvent	5-10%

· **Chemical characterization: Substance**

· **Description:**

Mixture: consisting of the following components.

Mixture of substances listed with non-hazardous additions and/or components that are less than listing threshold. All non-hazardous, components listed under threshold, and listed component total 100%.

· **Dangerous Components:**

CAS: 156-60-5	trans-dichloroethylene	Proprietary%
RTECS: KV 9400000	⚠ Flammable liquids 2, H225; ⚠ Acute toxicity - inhalation 4, H332	

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· **Additional information:**

The exact percentages of the ingredients of this mixture are considered to be proprietary and are withheld in accordance with the provisions of paragraph (i) of §1910.1200 of 29 CFR 1910.1200 Trade Secrets.

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.
In case of unconsciousness place patient stably in the side position for transportation.

· **After skin contact:**

Wash with soap and water.
If skin irritation occurs, consult a doctor.

· **After eye contact:**

Rinse opened eye for at least 15 minutes under running water. If symptoms persist, consult a doctor.
If easy to do so, remove contact lenses if worn.
If eye irritation occurs, consult a doctor.

· **After swallowing:** If swallowed and symptoms occur, consult a doctor.

· **Most important symptoms and effects, both acute and delayed:** Dizziness.

· **Indication of any immediate medical attention and special treatment needed:**

Do not administer preparations of the adrenalin-ephedrine-group.

5 Fire-Fighting Measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

To fight fires, use carbon dioxide, chemical foam, dry powder or water fog.
Use fire fighting measures that suit the environment.

· **For safety reasons unsuitable extinguishing agents:** Use appropriate extinguishers

· **Special hazards arising from the substance or mixture:**

Fire or intense heat can cause violent rupture of packages.
The product is non-flammable. Vapors may form flammable mixture with air.
Hazardous decomposition products: hydrogen fluoride, fluorinated hydrocarbons, carbonyl fluoride, carbon oxides, and hydrogen chloride.

· **Advice for firefighters** This product has no flash point but the product may release flammable vapor.

· **Special protective equipment for firefighters:**

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.

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6 Accidental Release Measures

· **Personal precautions, protective equipment and emergency procedures:**

Remove persons from danger area.

Ventilate area, especially in low or enclosed places where heavy vapors might collect.

In case of insufficient ventilation, wear suitable respiratory equipment.

· **Environmental precautions:** Dilute with plenty of water.

· **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (i.e. sand, diatomite, acid binders, universal binders, sawdust).

Dispose of contaminated material as waste according to section 13.

Ensure adequate ventilation.

Dispose of the collected material according to regulations.

· **PAC-1:**

156-60-5	trans-dichloroethylene	280 ppm
163702-07-6	Methyl nonafluorobutyl ether	2500 ppm
163702-08-7	Methyl nonafluoroisobutyl ether	2500 ppm

· **PAC-2:**

156-60-5	trans-dichloroethylene	1000 ppm
163702-07-6	Methyl nonafluorobutyl ether	8200 ppm
163702-08-7	Methyl nonafluoroisobutyl ether	8200 ppm

· **PAC-3:**

156-60-5	trans-dichloroethylene	1700 ppm
163702-07-6	Methyl nonafluorobutyl ether	15000 ppm
163702-08-7	Methyl nonafluoroisobutyl ether	15000 ppm

· **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

· **Precautions for safe handling:**

Avoid contact with skin, eyes and clothing

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Contents may be under pressure, open carefully and slowly.

Handle in accordance of good safe hygiene for industrial practices.

Material should not be dispensed by pouring from pail/drum shipping containers. Use of a pump is advised.

· **Information about protection against explosions and fires:** No special measures required.

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- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:**
Keep in properly labelled containers.
Store in a well-ventilated area.
Keep container tightly closed.
Store away from heat.
Store at temperatures not exceeding 100F.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep container tightly sealed.
Keep receptacle tightly sealed.
No further information available.
- **Specific end use(s):** No further relevant information available.

8 Exposure Controls/Personal Protection

- **Control parameters:**

- **Components with occupational exposure limits:**

156-60-5 trans-dichloroethylene

PEL	Long-term value: 790 mg/m ³ , 200 ppm
REL	Long-term value: 790 mg/m ³ , 200 ppm
TLV	Long-term value: 793 mg/m ³ , 200 ppm

163702-07-6 Methyl nonafluorobutyl ether

TWA	750 ppm (AIHA)
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163702-08-7 Methyl nonafluoroisobutyl ether

TWA	750 ppm (AIHA)
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- **Additional information:** The lists that were valid during the creation of this SDS were used as basis.

- **Exposure controls:**

- **Appropriate engineering controls** No further data; see section 7.

- **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.

Immediately remove all soiled and contaminated clothing and wash before reuse.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

- **Breathing equipment:**

Engineering controls: Not required if appropriate ventilation is provided. If ventilation is not adequate, use appropriate respiratory protection equipment.

For rescue and maintenance work in storage tanks use self-contained breathing apparatus. Vapors are heavier than air and can cause suffocation by reducing oxygen available for breathing.

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· **Protection of hands:**



Protective gloves

- **Material of gloves:** Solvent Resistant
- **Penetration time of glove material:** Not applicable.
- **Eye protection:**



Safety glasses

With side shields.

· **Body protection:**



Use protective suit.

- **Limitation and supervision of exposure into the environment:** None

9 Physical and Chemical Properties

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

· **General Information**

· **Physical state**

Liquid

· **Color:**

Colorless

· **Odor:**

Weak, characteristic

· **Odor threshold:**

Not applicable

· **Melting point/Melting range:**

Not determined.

· **Boiling point/Boiling range:**

41 °C (105.8 °F)

· **Flammability:**

Not applicable.

· **Explosion limits:**

· **Lower:**

9.7 Vol %

· **Upper:**

12.8 Vol %

· **Flash point:**

None

· **Auto igniting:**

≥440 °C (≥824 °F)

· **Decomposition temperature:**

N/A

· **pH-value:**

Not determined.

· **Viscosity:**

· **Kinematic:**

Not determined.

· **Dynamic @ 20 °C (68 °F):**

0.49 mPas

· **Solubility in / Miscibility with:**

· **Water:**

Not miscible (100 ppm max)

· **Partition coefficient (n-octanol/water):**

Not determined.

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- **Vapor pressure @ 20 °C (68 °F):** ≤350 hPa (≤262.5 mm Hg)
- **Vapor pressure:**
- **Density @ 20 °C (68 °F):** 1.29 g/cm³ (10.7651 lbs/gal) (10.8 lbs/gal)
- **Relative density:** Not determined.
- **Vapor density:** Not determined.
- **Particle characteristics** Not applicable.
- **Other information:**
- **Appearance:**
- **Form:** Liquid
- **Important information on protection of health and environment, and on safety.**
- **Ignition temperature:** Product is not self-igniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Solvent content:**
- **VOC content:** 1035 g/L
- **Solids content:** 0.0 %
- **Change in condition**
- **Evaporation rate:** Not determined.

10 Stability and Reactivity

- **Reactivity:** Stable under normal conditions.
- **Chemical stability:** Stable under normal conditions.
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions:** Hazardous polymerization will not occur.
- **Conditions to avoid:** No further relevant information available.
- **Incompatible materials:**
Avoid contact with Alkali metals and Alkaline earth metals, powdered metal salts, strong bases
- **Hazardous decomposition products:**
Hazardous decomposition products formed under fire conditions: fluorinated hydrocarbons, hydrogen fluoride, carbon dioxide (CO₂), carbon monoxide, hydrogen chloride gas, carbonyl fluoride.

11 Toxicological Information

- **Information on toxicological effects:**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:**

156-60-5 trans-dichloroethylene

Oral	LD50	7,902 mg/kg (Rat)
Dermal	LD50	>5,000 mg/kg (rabbit)
Inhalative	LC50/4 h	95.4 mg/l (Rat)

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	LC50/96 hours	27.2 mg/l (Cyprinodon variegatus (minnow))
	LC50/48 hrs	79 mg/l (Daphnia)

- **Primary irritant effect:**
- **On the skin:** No irritating effect.
- **On the eye:** Irritating effect.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant
- **Interactive effects** No interactive effects between components are known.
- **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.

- **Alternative sources for toxicological information**
No non-standard sources for toxicological information where used.

12 Ecological Information

- **Toxicity:** The hazards for the aquatic environment are unknown.
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability:** No further relevant information available.
- **Bioaccumulative potential:** No further relevant information available.
- **Mobility in soil:** No further relevant information available.
- **Results of PBT and vPvB assessment:**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects:**
- **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.

13 Disposal Considerations

- **Waste treatment methods**
Can be recycled by distillation. If recycling is not practical, dispose of in compliance of local regulations.
- **Recommendation:**
Contact manufacturer for recycling information.

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Must not be disposed of together with household waste. Do not allow product to reach sewage system. Observe all federal, state and local environmental regulations when disposing of this material.

- **Uncleaned packaging**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport Information

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

15 Regulatory Information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture:**
No further relevant information available.

- **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):**

156-60-5	trans-dichloroethylene	ACTIVE
163702-07-6	Methyl nonafluorobutyl ether	ACTIVE
163702-08-7	Methyl nonafluoroisobutyl ether	ACTIVE

- **Hazardous Air Pollutants**

None of the ingredients are listed.

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· **California Proposition 65:**

· **Chemicals known to cause cancer:**

None of the ingredients are listed.

· **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.

· **New Jersey Right-to-Know List:**

None of the ingredients are listed.

· **New Jersey Special Hazardous Substance List:**

None of the ingredients are listed.

· **Pennsylvania Right-to-Know List:**

156-60-5 trans-dichloroethylene

· **Pennsylvania Special Hazardous Substance List:**

156-60-5 trans-dichloroethylene

E

· **Carcinogenic categories:**

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

156-60-5 trans-dichloroethylene

II

· **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:**



· **Signal word:** Warning

· **Hazard statements:**

H320 Causes eye irritation.

H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

· **Precautionary statements:**

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.

P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.

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P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/attention.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **National regulations:**

The product is not subject to be labelled according with the prevailing version of the regulations on hazardous substances.

· **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 previous version** 11/10/2023

· **Version number of previous version:** 20

· **Date of preparation** 07/01/2025

· **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

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 and Health

OSHA: Occupational Safety & Health Administration

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Flammable liquids 2: Flammable liquids – Category 2

Acute toxicity - inhalation 4: Acute toxicity – Category 4

Eye irritation 2B: Serious eye damage/eye irritation – Category 2B

Specific target organ toxicity (single exposure) 3: Specific target organ toxicity (single exposure) – Category 3

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

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