

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g), Rev. 2012 and GHS Rev 03.

Printing date 07/31/2014

Reviewed on 07/31/2014

1 Identification

- **Product identifier**
- **Trade name:** FLUOSOLV DX
- **Product description** Defluxing Solvent
- **Application of the substance / the mixture** Vapor Degreasing and aerosol cleaning solvent
- **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:**
 INFOTRAC day or night - 1-800-535-5053
 Outside of continental U.S. call collect 1-352-323-3500

2 Hazard(s) identification

- **Classification of the substance or mixture**



Health hazard

May cause damage to organs.



Harmful if swallowed.

Harmful if inhaled.

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 GHS08

- **Signal word** Warning

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

trans-dichloroethylene

1,1,1,3,3-pentafluorobutane

methanol

- **Hazard statements**

Harmful if swallowed or if inhaled.

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May cause damage to organs.
Harmful to aquatic life with long lasting effects.

• **Precautionary statements**

Do not breathe dust/fume/gas/mist/vapours/spray.

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

Use only outdoors or in a well-ventilated area.

Avoid release to the environment.

Wash thoroughly after handling.

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

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Rinse mouth.

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

Call a POISON CENTER/doctor if you feel unwell.

Store locked up.

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

• **Classification system:**

• **NFPA ratings (scale 0 - 4)**



Health = 1

Fire = 0

Reactivity = 1

• **HMIS-ratings (scale 0 - 4)**



Health = 1

Fire = 0

Reactivity = 1

3 Composition/information on ingredients

• **Chemical characterization: Mixtures**

• **Description:** Mixture of the substances listed below with nonhazardous additions.

• **Composition/information on ingredients:**

156-60-5	trans-dichloroethylene ⚠ Flam. Liq. 2, H225; ⚠ Acute Tox. 4, H332; Aquatic Chronic 3, H412	>50%
406-58-6	1,1,1,3,3-pentafluorobutane ⚠ Acute Tox. 4, H302; H227	<20%
163702-07-6	Methyl nonafluorobutyl ether Aquatic Chronic 3, H412	<20%
163702-08-7	Methyl nonafluoroisobutyl ether Aquatic Chronic 3, H412	<20%
67-56-1	methanol ⚠ Flam. Liq. 2, H225; ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; ⚠ STOT SE 1, H370	<5%

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138495-42-8	Decafluoro Pentane	(Contd. of page 2)
	Aquatic Chronic 3, H412	<20%

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.
- **After swallowing:** Drink copious amounts of water and provide fresh air. Immediately call a 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:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
- **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 (ie. 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

- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.

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- Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Keep protective respiratory device available.
- **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.
- **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 ³ , 200 ppm
REL	Long-term value: 790 mg/m ³ , 200 ppm
TLV	Long-term value: 793 mg/m ³ , 200 ppm

67-56-1 methanol

PEL	Long-term value: 260 mg/m ³ , 200 ppm
REL	Short-term value: 325 mg/m ³ , 250 ppm Long-term value: 260 mg/m ³ , 200 ppm Skin
TLV	Short-term value: 328 mg/m ³ , 250 ppm Long-term value: 262 mg/m ³ , 200 ppm Skin; BEI

· **Ingredients with biological limit values:**

67-56-1 methanol

BEI	15 mg/L urine end of shift Methanol (background, nonspecific)
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- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
- **Breathing equipment:** Not required.

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· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Select glove material based on penetration times, rates of diffusion and degradation.

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.

· **Eye protection:** Goggles recommended during refilling.

9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form:	Liquid
Color:	Clear
Odor:	Weak, characteristic
Odor threshold:	Not determined.

· **pH-value:** Not Applicable

· **Change in condition**

Melting point/Melting range:	Not applicable
Boiling point/Boiling range:	41 °C (106 °F)

· **Flash point:** None

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 440 °C (824 °F)

· **Decomposition temperature:** Not Determined

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

Lower:	None
Upper:	None

· **Vapor pressure @ 25 °C (77 °F):** 385 Hg

· **Density @ 20 °C (68 °F):** 1.29 g/cm³ (10.765 lbs/gal)

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- | | |
|---|--|
| · Relative density @ 20 °C (68 °F) | 3.9 (Relative (Air=1)) |
| · Vapour density | Not determined. |
| · Evaporation rate | Not determined. |
| · Solubility in / Miscibility with Water: | Not miscible or difficult to mix. |
| · Partition coefficient (n-octanol/water): | Not determined. |
| · Viscosity: | |
| Dynamic @ 20 °C (68 °F): | 0.49 mPas |
| Kinematic: | Not determined. |
| · Solvent content: | |
| Organic solvents: | 100 % |
| VOC content: | 870 g/l |
| · Other information | No further relevant information available. |

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability** Product is 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.

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)
------	------	-----------------

67-56-1 methanol

Oral	LD50	5628 mg/kg (rat)
Dermal	LD50	15800 mg/kg (rabbit)

- **Primary irritant effect:**
- **on the skin:** No irritant 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

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· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

12 Ecological information

· **Toxicity**

· **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.

· **Ecotoxicological effects:**

· **Remark:** Harmful to fish

· **Additional ecological information:**

· **General notes:**

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

Harmful to aquatic organisms

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:** Contact manufacturer for recycling information.

· **Uncleaned packagings:**

· **Recommendation:** Unclean packaging can be recycled.

14 Transport information

· **UN-Number**

· **DOT, ADR, ADN, IMDG, IATA**

Non-Regulated Material

· **UN proper shipping name**

· **DOT, ADR, ADN, IMDG, IATA**

Non-Regulated Material

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- | | |
|--|------------------------|
| · Transport hazard class(es) | |
| · DOT, ADR, ADN, IMDG, IATA | |
| · Class | Non-Regulated Material |
| · Packing group | |
| · DOT, ADR, IMDG, IATA | Non-Regulated Material |
| · Environmental hazards: | |
| · Marine pollutant: | No |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | - |

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

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

None of the ingredients is listed.

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

67-56-1 | methanol

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

All ingredients are listed.

- **Proposition 65**

- **Chemicals known to cause cancer:**

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

67-56-1 | methanol

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

156-60-5 | trans-dichloroethylene

||

- **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

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

This product is listed as a hazardous material under criteria of the Federal OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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• **GHS label elements**

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

• **Hazard pictograms**



GHS07 GHS08

• **Signal word** Warning

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

trans-dichloroethylene

1,1,1,3,3-pentafluorobutane

methanol

• **Hazard statements**

Harmful if swallowed or if inhaled.

May cause damage to organs.

Harmful to aquatic life with long lasting effects.

• **Precautionary statements**

Do not breathe dust/fume/gas/mist/vapours/spray.

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

Use only outdoors or in a well-ventilated area.

Avoid release to the environment.

Wash thoroughly after handling.

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

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Rinse mouth.

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

Call a POISON CENTER/doctor if you feel unwell.

Store locked up.

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

• **National regulations:**

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

• **State Right to Know**

All ingredients are listed.

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

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

• **Date of preparation / last revision** 07/31/2014 / 4

• **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

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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
Flam. Liq. 2: Flammable liquids, Hazard Category 2
: Flammable liquids, Hazard Category 4
Acute Tox. 3: Acute toxicity, Hazard Category 3
Acute Tox. 4: Acute toxicity, Hazard Category 4
STOT SE 1: Specific target organ toxicity - Single exposure, Hazard Category 1
STOT SE 2: Specific target organ toxicity - Single exposure, Hazard Category 2
Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3

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

SDS created by MSDS Authoring Services www.msdsauthoring.com (877) 204-9106

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