

# Safety Data Sheet (SDS)

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

Issue date 09/16/2015

Reviewed on 09/16/2015

## 1 Identification

- **Product identifier**
- **Trade name: FLUOSOLV AP (Aerosol)**
- **Product number: ngt-fs-AP-aeros**
- **Relevant identified uses of the substance or mixture and uses advised against:**  
Specialty fluorinated solvent blend for aerosol cleaning
- **Product description** Aerosol
- **Application of the substance / the mixture:** Degreasing & defluxing 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:**  
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:**



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:**



- **Signal word:** Warning

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

trans-dichloroethylene

- **Hazard statements:**

Harmful if swallowed or if inhaled.

Harmful to aquatic life with long lasting effects.

- **Precautionary statements:**

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

Use only outdoors or in a well-ventilated area.

Avoid release to the environment.

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Wash thoroughly after handling.

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

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

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

Rinse mouth.

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

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



Health = 1  
Fire = 0  
Reactivity = 1

- **HMIS-ratings (scale 0 - 4)**



Health = 1  
Fire = 0  
Reactivity = 1

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

## 3 Composition/information on ingredients

Proprietary fluorinated fluid mixture	20%
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- **Chemical characterization: Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous Components:**

CAS: 156-60-5 RTECS: KV 9400000	trans-dichloroethylene ⚠ Flam. Liq. 2, H225; ⚠ Acute Tox. 4, H332; Aquatic Chronic 3, H412	Proprietary%
CAS: 124-38-9 RTECS: FF 6400000	Carbon Dioxide ⚠ Press. Gas, H280; Simple Asphyxiant	<5%
CAS: 67-63-0 RTECS: NT 8050000	Isopropyl alcohol ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	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; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:**  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If swallowed and symptoms occur, consult a doctor.
- **Information for doctor:** Treat symptomatically and supportively. No specific antidote.
- **Most important symptoms and effects, both acute and delayed:** Breathing difficulty

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- **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:**  
Closed containers may explode when exposed to extreme heat.
- **Advice for firefighters:**
- **Protective equipment:**  
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:**  
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:**  
Dispose contaminated material as waste according to section 13.
- **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:** Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.
- **Conditions for safe storage, including any incompatibilities:**
- **Storage**
- **Requirements to be met by storerooms and receptacles:**  
Store in a cool location.  
Observe official regulations on storing packagings with pressurized containers.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
No further relevant information available..  
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s):** No further relevant information available.

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### 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

**124-38-9 Carbon Dioxide**

PEL Long-term value: 9000 mg/m<sup>3</sup>, 5000 ppm

REL Short-term value: 54.000 mg/m<sup>3</sup>, 30.000 ppm

Long-term value: 9000 mg/m<sup>3</sup>, 5000 ppm

TLV Short-term value: 54.000 mg/m<sup>3</sup>, 30.000 ppm

Long-term value: 9000 mg/m<sup>3</sup>, 5000 ppm

**67-63-0 Isopropyl alcohol**

PEL Long-term value: 980 mg/m<sup>3</sup>, 400 ppm

REL Short-term value: 1225 mg/m<sup>3</sup>, 500 ppm

Long-term value: 980 mg/m<sup>3</sup>, 400 ppm

TLV Short-term value: 984 mg/m<sup>3</sup>, 400 ppm

Long-term value: 492 mg/m<sup>3</sup>, 200 ppm

BEI

Fluosolv AP (Calculated Allowable Exposure Limits)

AEL 352 ppm

· **Ingredients with biological limit values:**

**67-63-0 Isopropyl alcohol**

BEI 40 mg/L

urine

end of shift at end of workweek

Acetone (background, nonspecific)

- **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:**  
Keep away from foodstuffs, beverages and feed.  
Wash hands before breaks and at the end of work.
- **Breathing equipment:**  
In case of intensive or longer exposure, use respiratory protective device that is independent of circulating air.
- **Protection of hands:**  
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.

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• **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 cannot 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:**



Safety glasses

### 9 Physical and chemical properties

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

• **General Information**

• **Appearance:**

• <b>Form:</b>	Aerosol
• <b>Color:</b>	Colorless
• <b>Odor:</b>	Weak, characteristic
• <b>Odor threshold:</b>	Not determined.

• **pH-value:** not applicable

• **Change in condition**

• <b>Melting point/Melting range:</b>	--
• <b>Boiling point/Boiling range:</b>	43 °C (109 °F) (bulk fluid)

• **Flash point:** none

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

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

• **Decomposition temperature:** ≥ 200 deg C (392 deg F)

• **Auto igniting:** Product is not self-igniting.

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

• **Explosion limits:**

• <b>Lower:</b>	8.1 Vol %
• <b>Upper:</b>	11.5 Vol %

• **Vapor pressure @ 20 °C (68 °F):** 700 hPa (525 mm Hg) (Aerosol)

• **Density @ 20 °C (68 °F):** 1.252 g/cm<sup>3</sup> (10.448 lbs/gal) (Bulk Liquid)

• **Vapor density:** 3.1 (Air=1)

• **Evaporation rate:** <1 (n-Butyl Acetate =1)

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**Trade name: FLUOSOLV AP (Aerosol)**

- |  |  |
|--|--|
| <b>· Solubility in / Miscibility with:</b> |  |
| <b>Water:</b>                              | Not miscible or difficult to mix.          |
| <b>· Viscosity:</b>                        |  |
| <b>Dynamic @ 20 °C (68 °F):</b>            | 0.39 cP                                    |
| <b>Kinematic:</b>                          | Not determined.                            |
| <b>· Solvent content:</b>                  |  |
| <b>VOC content:</b>                        | 759 g/l (per SCAQMD methodology)           |
| <b>· Other information:</b>                | No further relevant information available. |

### 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:** 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)
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#### 67-63-0 Isopropyl alcohol

Oral	LD50	5045 mg/kg (rat)
Dermal	LD50	12800 mg/kg (rabbit)
Inhalative	LC50/4 h	30 mg/l (rat)
	LC50/96 hours	9640 mg/l (Pimephales)

- **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:

- **Carcinogenic categories:**

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

67-63-0	Isopropyl alcohol	3
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· **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:**

· **Aquatic toxicity:**

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

**67-63-0 Isopropyl alcohol**

EC50 6851 mg/l (Green algae)

5102 mg/l (Water flea)

· **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.

· **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:** Disposal must be made according to official regulations.

### 14 Transport information

· **UN-Number:**

Not classified as dangerous in the meaning of transport regulations.

DOT only - when shipped in packages with > 1470 lbs., use: UN3082, Environmentally Hazardous Substance, Liquid, N.O.S. (Dichloroethylene), 9, PGIII RQ (Dichloroethylene)

· **DOT, ADR, IMDG, IATA**

UN1950

· **UN proper shipping name:**

· **DOT**

Aerosols, non-flammable

· **ADR**

UN1950 Aerosols

· **IMDG**

AEROSOLS

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· <b>IATA</b>	AEROSOLS, non-flammable
· <b>Transport hazard class(es):</b>	Not classified as dangerous in the meaning of transport regulations. DOT only - when shipped in packages with > 1470 lbs., use: UN3082, Environmentally Hazardous Substance, Liquid, N.O.S. (Dichloroethylene), 9, PGIII RQ (Dichloroethylene)
· <b>DOT</b>	
	
	Consumer Commodity
· <b>Class:</b>	2.2
· <b>Label:</b>	2.2
· <b>ADR</b>	
	
	Consumer Commodity
· <b>Class:</b>	2 5A Gases
· <b>Label:</b>	2.2
· <b>IMDG, IATA</b>	
	
	Consumer Commodity
· <b>Class:</b>	2.2
· <b>Label:</b>	2.2
· <b>Packing group:</b>	N/A
· <b>DOT, ADR, IMDG, IATA</b>	Non-Regulated Material
· <b>Environmental hazards:</b>	Not applicable.

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<ul style="list-style-type: none"> <li>· <b>Special precautions for user:</b></li> <li>· <b>Danger code (Kemler):</b></li> <li>· <b>EMS Number:</b></li> </ul>	<p>Warning: Gases - F-D,S-U</p>
<ul style="list-style-type: none"> <li>· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:</b></li> </ul>	<p>Not applicable.</p>
<ul style="list-style-type: none"> <li>· <b>Transport/Additional information:</b></li> <li>· <b>DOT</b></li> <li>· <b>Quantity limitations:</b></li> </ul>	<p>On passenger aircraft/rail: 75 kg On cargo aircraft only: 150 kg</p>
<ul style="list-style-type: none"> <li>· <b>ADR</b></li> <li>· <b>Excepted quantities (EQ):</b></li> </ul>	<p>Code: E0 Not permitted as Excepted Quantity</p>
<ul style="list-style-type: none"> <li>· <b>IMDG</b></li> <li>· <b>Limited quantities (LQ):</b></li> <li>· <b>Excepted quantities (EQ):</b></li> </ul>	<p>1L Code: E0 Not permitted as Excepted Quantity</p>
<ul style="list-style-type: none"> <li>· <b>UN "Model Regulation":</b></li> </ul>	<p>UN1950, Aerosols, 2.2</p>

### 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):**

67-63-0 Isopropyl alcohol

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

All ingredients are listed.

- **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.

- **Carcinogenic categories:**

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

156-60-5 trans-dichloroethylene

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

67-63-0 Isopropyl alcohol	A4
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· **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

· **Hazard statements:**

Harmful if swallowed or if inhaled.

Harmful to aquatic life with long lasting effects.

· **Precautionary statements:**

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

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

Rinse mouth.

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.

· **State Right to Know:**

All ingredients are listed.

· **Other regulations, limitations and prohibitive regulations:**

CERCLA Reportable Quantity: 1470 lbs, based on the percentage composition of this chemical in the product.:

trans-Dichloroethylene

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

**16 Other information**

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*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:** 09/16/2015 / -

• **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)

HMS: 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

Press. Gas: Gases under pressure: Compressed gas

Flam. Liq. 2: Flammable liquids, Hazard Category 2

Acute Tox. 4: Acute toxicity, Hazard Category 4

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3

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

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