

Safety Data Sheet (SDS)

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

Issue date 11/10/2023

Reviewed on 11/16/2020

1 Identification

- **Product Identifier**
- **Trade Name:** FLUOSOLV AP
- **Product Number:** ng-FAP
- **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-determining components of labeling:**
Isopropyl alcohol
- **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.

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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.
 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.

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

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**



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

3 Composition/Information on Ingredients

· **Non-hazardous components:**

Proprietary Fluorinated Fluid	<30%
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· **Chemical characterization: Substance**

· **Description:** Mixture: consisting of the following components.

· **Dangerous Components:**

CAS: 156-60-5 RTECS: KV 9400000	trans-dichloroethylene ⚠ Flammable Liquids 2, H225; ⚠ Acute Toxicity - Inhalation 4, H332	Proprietary%
CAS: 67-63-0 RTECS: NT 8050000	Isopropyl alcohol ⚠ Flammable Liquids 2, H225; ⚠ Eye Irritation 2A, H319; Specific Target Organ Toxicity - Single Exposure 3, H336	Proprietary%

· **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.

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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:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:**
Do not induce vomiting without medical advice.
If swallowed and symptoms occur, consult a doctor.
- **Information for 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:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** No further relevant information.
- **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.

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.
- **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.
- **Reference to other sections:**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.

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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.
 - 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.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:**
 - 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:** No further information available.
- **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/m³, 200 ppm

REL Long-term value: 790 mg/m³, 200 ppm

TLV Long-term value: 793 mg/m³, 200 ppm

Proprietary Fluorinated Mixture

TWA 1000 ppm (manufacturer determined)

67-63-0 Isopropyl alcohol

PEL Long-term value: 980 mg/m³, 400 ppm

REL Short-term value: 1225 mg/m³, 500 ppm
Long-term value: 980 mg/m³, 400 ppm

TLV Short-term value: 984 mg/m³, 400 ppm
Long-term value: 492 mg/m³, 200 ppm
BEI

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

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- **Exposure controls:**
- **Personal protective equipment**
- **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
- **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.
- **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.

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 applicable

- **Change in condition**

Boiling point/Boiling range: 43 °C (109.4 °F)

- **Flash point:** None (Pensky-Martens closed Cup)

- **Auto igniting:** N/A

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· Decomposition temperature:	N/A
· Ignition temperature:	Product is not self-igniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· Explosion limits:	
Lower:	7.5 Vol %
Upper:	11.6 Vol %
· Density @ 25 °C (77 °F):	1.27 g/ml (10.4 lbs/gal)
· Solubility in / Miscibility with:	
Water:	Not miscible (100 ppm max)
· Viscosity:	
Dynamic @ 25 °C (77 °F):	0.46 mPas
· Solvent content:	
VOC content:	756 g/l (SCAQMD methodology)
· Other information:	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:** Hazardous polymerization will not occur.
- **Conditions to avoid:** Heat, flame and ignition sources.
- **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	7902 mg/kg (Rat)
Dermal	LD50	>5000 mg/kg (rabbit)
Inhalative	LC50/4 h	95.4 mg/l (Rat)

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Trade Name: FLUOSOLV AP

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:** Irritating effect.

· **Additional toxicological information:**

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

Irritant

· **Carcinogenic categories:**

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

Group 1 - Carcinogenic to humans

Group 2A - Probably carcinogenic to humans

Group 2B - Possibly carcinogenic to humans

Group 3 - Not classifiable as to its carcinogenicity to humans

Group 4 - Probably not carcinogenic to humans

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

· **Aquatic toxicity:**

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.

· **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.

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

· **PBT:** Not applicable.

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- **vPvB:** Not applicable.
- **Other adverse effects:** No further relevant information available.

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.
- **Uncleaned packaging**
- **Recommendation:** Disposal must be made according to official regulations.

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. |
| · 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": | 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.

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

156-60-5	trans-dichloroethylene
406-58-6	1,1,1,3,3-pentafluorobutane
163702-07-6	Methyl nonafluorobutyl ether
163702-08-7	Methyl nonafluoroisobutyl ether

· **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):**

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-determining components of labeling:**

Isopropyl alcohol

· **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.

· **Contact:**

· **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 2A: *Serious eye damage/eye irritation – Category 2A*
 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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