

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 BA (Aerosol)**
- **Product Number: FX-BAA**
- **Relevant identified uses of the substance or mixture and uses advised against:**
Degreasing aerosol applications.
- **Product Description** Proprietary fluorinated degreasing aerosol blend.
- **Application of the substance / the mixture:** Industry specific application.
- **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:**
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.

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Trade name: FLUOSOLV BA (Aerosol)

- 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.

Unknown acute toxicity:

29.8 % 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

Chemical characterization: Mixtures

Description: Solvent mixture

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 Fluorinated Fluid 3 Aquatic Chronic 3, H412	10.8%
CAS: 811-97-2	1,1,1,2-Tetrafluoroethane (HFC-134a) Press. Gas, H281	Proprietary%
	Proprietary hydrofluorocarbon blend Flam. Liq. 2, H225	9%
CAS: 67-63-0 RTECS: NT 8050000	Isopropyl alcohol Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	Proprietary%

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4 First-Aid Measures

- **Description of first aid measures:**
- **General information:**
Symptoms of poisoning may occur after exposure to dust, fumes or particulates; seek medical attention if feeling unwell.
- **After inhalation:**
Supply fresh air. If required, provide artificial respiration. Consult doctor if symptoms persist. In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
Generally the product does not irritate the skin.
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.
- **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting without medical advice.
If vomiting does occur, repeat fluid administration
Seek immediate medical advice.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed:** Breathing difficulty
- **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.
- **Special hazards arising from the substance or mixture:**
If incinerated, product will release the following toxic fumes: Oxides of Carbon, Hydrochloric acid gas, and Hydrofluoric acid gas.
- **Advice for firefighters:**
Pressurized aerosol containers may explode when exposed to heat from fires. Use caution.
Use water spray to cool unopened containers.
- **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:**
Ensure adequate ventilation.
Keep away from ignition sources
Wear protective equipment. Keep unprotected persons away.
Keep people at a distance and stay upwind.

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- Do not breathe vapor.
- **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/surface or ground water.
- **Methods and material for containment and cleaning up:**
Allow to evaporate.
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
Dispose of the collected material according to regulations.
- **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.
Keep ignition sources away - Do not smoke.
Keep protective respiratory device available.
Protect from heat.
Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C, i.e. electric lights. Do not pierce or burn, even after use.
- **Conditions for safe storage, including any incompatibilities:**
Store away from strong acids, strong bases, strong oxidizing agents and strong reducing agents.
- **Storage**
- **Requirements to be met by storerooms and receptacles:**
Observe official regulations on storing packagings with pressurized containers.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Protect from heat and direct sunlight.
- **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

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TLV	Long-term value: 793 mg/m ³ , 200 ppm
Proprietary Fluorinated Fluid 3	
TWA	750 ppm (AIHA)
811-97-2 1,1,1,2-Tetrafluoroethane (HFC-134a)	
WEEL	Long-term value: 1000 ppm
Proprietary hydrofluorocarbon blend	
TWA	1000 ppm (manufacturer determined)
67-63-0 Isopropyl alcohol	
PEL	Long-term value: 980 mg/m ³ , 400 ppm
REL	Short-term value: 1225 mg/m ³ , 500 ppm Long-term value: 980 mg/m ³ , 400 ppm
TLV	Short-term value: 984 mg/m ³ , 400 ppm Long-term value: 492 mg/m ³ , 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:



Suitable respiratory protective device recommended.

• Protection of hands:



Protective gloves

• 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.

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- **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

- **Body protection:**



Protective work clothing

9 Physical and Chemical Properties

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

- **General Information**

- **Appearance:**

Form:	Aerosol
Color:	Colorless Clear, colorless
Odor:	Weak, characteristic
Odor threshold:	Not determined.

- **pH-value:** not applicable

- **Change in condition**

Melting point/Melting range:	--
Boiling point/Boiling range:	43 °C (109 °F)

- **Flash point:** Not applicable, as aerosol.

- **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:**

Lower:	9.7 Vol %
Upper:	12.8 Vol %

- **Vapor pressure @ 20 °C (68 °F):** 5716 hPa (4287 mm Hg)

- **Density @ 20 °C (68 °F):** 1.27 g/cm³ (10.598 lbs/gal)

- **Relative density:** Not determined.

- **Vapor density:** Not determined.

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- | | |
|---|--|
| · Evaporation rate: | Not applicable. |
| · Solubility in / Miscibility with:
Water: | Not miscible or difficult to mix. |
| · Partition coefficient (n-octanol/water): | Not determined. |
| · Viscosity:
Dynamic: | Not determined. |
| Kinematic: | Not determined. |
| · Solvent content:
VOC content: | 875 g/l (per 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:** Stable under normal use conditions
- **Conditions to avoid:** No further relevant information available.
- **Incompatible materials:**
Strong acids, strong bases, strong oxidizing agents and strong reducing agents.
- **Hazardous decomposition products:**
Carbon oxides, Hydrochloric acid gas, and Hydrofluoric acid gas.

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

67-63-0 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:
Harmful

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Trade name: FLUOSOLV BA (Aerosol)

- **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:**
- **Aquatic toxicity:**
 - Toxic to aquatic life
 - 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.
- **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.

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.

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Trade name: FLUOSOLV BA (Aerosol)

Observe all federal, state and local environmental regulations when disposing of this material.

- **Uncleaned packagings**
- **Recommendation:**
Disposal must be made according to official regulations.
Dispose of as unused product.

14 Transport Information

- | | |
|--|---|
| · UN-Number: | |
| · DOT, ADR, IMDG, IATA | UN1950 |
| · UN proper shipping name: | |
| · DOT | Aerosols, non-flammable |
| · ADR | UN1950 Aerosols |
| · IMDG | AEROSOLS |
| · IATA | AEROSOLS, non-flammable |
| · Transport hazard class(es): | |
| · DOT | |
| |  |
| · Class: | 2.2 |
| · Label: | 2.2 |
| · ADR | |
| |  |
| · Class: | 2.2 5A |
| · Label: | 2.2 |
| · IMDG, IATA | |
| |  |
| · Class: | 2.2 |
| · Label: | 2.2 |
| · Packing group: | N/A |
| · DOT, ADR, IMDG, IATA | Non-Regulated Material |
| · Environmental hazards: | Not applicable. |
| · Special precautions for user: | Not applicable. |

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Trade name: FLUOSOLV BA (Aerosol)

<ul style="list-style-type: none"> · EMS Number: · Stowage Code · Segregation Code 	<p>F-D,S-U SW1 Protected from sources of heat. SW22 For AEROSOLS with a maximum capacity of 1 litre: Category A. For AEROSOLS with a capacity above 1 litre: Category B. For WASTE AEROSOLS: Category C, Clear of living quarters.</p> <p>SG69 For AEROSOLS with a maximum capacity of 1 litre: Segregation as for class 9. Stow "separated from" class 1 except for division 1.4. For AEROSOLS with a capacity above 1 litre: Segregation as for the appropriate subdivision of class 2. For WASTE AEROSOLS: Segregation as for the appropriate subdivision of class 2.</p>
<ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: 	<p>Not applicable.</p>
<ul style="list-style-type: none"> · Transport/Additional information: · DOT · Quantity limitations: 	<p>On passenger aircraft/rail: 75 kg On cargo aircraft only: 150 kg</p>
<ul style="list-style-type: none"> · ADR · Excepted quantities (EQ): 	<p>Code: E0 Not permitted as Excepted Quantity</p>
<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ): · Excepted quantities (EQ): 	<p>1L Code: E0 Not permitted as Excepted Quantity</p>
<ul style="list-style-type: none"> · UN "Model Regulation": 	<p>UN 1950 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):**

156-60-5 trans-dichloroethylene

811-97-2 1,1,1,2-Tetrafluoroethane (HFC-134a)

Proprietary hydrofluorocarbon blend

67-63-0 Isopropyl alcohol

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Trade name: FLUOSOLV BA (Aerosol)

· **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:**

67-63-0 Isopropyl alcohol

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

67-63-0 Isopropyl alcohol F3

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

156-60-5 trans-dichloroethylene

67-63-0 Isopropyl alcohol

· **Pennsylvania Special Hazardous Substance List:**

156-60-5 trans-dichloroethylene E

67-63-0 Isopropyl alcohol E

· **Carcinogenic categories:**

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

156-60-5 trans-dichloroethylene II

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

67-63-0 Isopropyl alcohol A4

· **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:**

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.

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 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.

• 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

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
 BEI: Biological Exposure Limit
 Press. Gas: Gases under pressure – Refrigerated liquefied gas
 Flam. Liq. 2: Flammable liquids – Category 2
 Acute Tox. 4: Acute toxicity – Category 4
 Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

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Trade name: FLUOSOLV BA (Aerosol)

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

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

SDS created by MSDS Authoring Services www.msdsauthoring.com +1-877-204-9106

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