

## 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 04/28/2023

### 1 Identification

- **Product Identifier**
- **Trade Name:** FLUOSOLV FR-110
- **Product Number:** ng-fFR110
- **Relevant identified uses of the substance or mixture and uses advised against:**
- **Product Description:** VOC Free vapor-degreasing 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:**  
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:**



Eye Irritation 2A H319 Causes serious eye irritation.

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



- **Signal word:** Warning
- **Hazard statements:**  
H319 Causes serious eye irritation.
- **Precautionary statements:**  
P264 Wash thoroughly after handling.  
P280 Wear eye protection / face protection.  
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.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 1  
Fire = 0  
Reactivity = 0

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· **HMIS-ratings (scale 0 - 4)**

HEALTH	1	Health = 1
FIRE	0	Fire = 0
REACTIVITY	0	Physical Hazard = 0

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

### 3 Composition/Information on Ingredients




· **Non-hazardous components:**

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

· **Description:** Mixture of substances listed below with non-hazardous additions.

· **Dangerous Components:**

CAS: 67-64-1	Acetone	Proprietary%
RTECS: AL 3150000	 Flammable Liquids 2, H225;  Eye Irritation 2A, H319;  Specific Target Organ Toxicity - Single Exposure 3, H336	

### 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**

· **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:**

CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **For safety reasons unsuitable extinguishing agents:** No further Information

· **Special hazards arising from the substance or mixture:** No further relevant information available.

· **Advice for firefighters**

· **Special protective equipment for firefighters:**

Protective respiratory device.

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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.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (i.e. sand, diatomite, acid binders, universal binders, sawdust).
- **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 the original container.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Store in ambient location.  
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:**

**67-64-1 Acetone**

PEL	Long-term value: 2400 mg/m <sup>3</sup> , 1000 ppm
REL	Long-term value: 590 mg/m <sup>3</sup> , 250 ppm
TLV	Short-term value: (1782) NIC-1187 mg/m <sup>3</sup> , (750) NIC-500 ppm
	Long-term value: (1188) NIC-594 mg/m <sup>3</sup> , (500) NIC-250 ppm
	BEI

Fluosolv FR-110 (Calculated Allowable Exposure Limits)

AEL 865 ppm

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· **Ingredients with biological limit values:**

**67-64-1 Acetone**

BEI	50 mg/L urine end of shift Acetone (nonspecific)
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· **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:**

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:** Not required.

· **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.

· **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

Tightly sealed goggles

## 9 Physical and Chemical Properties

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

· **General Information**

· **Appearance:**

<b>Form:</b>	Liquid
<b>Color:</b>	Colorless

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· <b>Odor:</b>	Mild
· <b>Odor threshold:</b>	Not Applicable
· <b>Change in condition</b> <b>Boiling point/Boiling range:</b>	46 °C (114.8 °F)
· <b>Flash point:</b>	None (Pensky-Marten Closed-Cup)
· <b>Ignition temperature:</b>	Product is not self-igniting.
· <b>Danger of explosion:</b>	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· <b>Explosion limits:</b>	
<b>Lower:</b>	2.6 Vol %
<b>Upper:</b>	13.0 Vol %
· <b>Density @ 20 °C (68 °F):</b>	1.21 g/cm <sup>3</sup> (10.0975 lbs/gal)
· <b>Solubility in / Miscibility with:</b>	
<b>Water:</b>	Absorbs water
· <b>Solvent content:</b>	
<b>VOC content:</b>	0 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:**  
Avoid extremes of temperature and direct sunlight.
- **Possibility of hazardous reactions:** No dangerous reactions known.
- **Conditions to avoid:** No further relevant information available.
- **Incompatible materials:** certain plastics. test parts before use.
- **Hazardous decomposition products:**  
Fluorinated hydrocarbons, hydrogen fluoride, carbon dioxide and carbon monoxide formed under fire

### 11 Toxicological Information

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

**67-64-1 Acetone**

Oral	LD50	5800 mg/kg (Rat)
Dermal	LD50	20000 mg/kg (rabbit)
Inhalative	LC50/4 h	5549 mg/l (Trout) (96 hr)

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- **Primary irritant effect:**
- **On the skin:** No irritating effect.
- **On the eye:**  
Mild irritant effect.  
Irritating effect.  
Causes serious eye irritation.
- **Additional toxicological information:**
- **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.

### 12 Ecological Information

· **Toxicity:**

· **Aquatic toxicity:**

**67-64-1 Acetone**

EC50 6100 mg/l (Pimephales) (48 hr)

- **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:** Not known to be hazardous to water.
- **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 packaging**
- **Recommendation:** Disposal must be made according to official regulations.

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### 14 Transport Information

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

· <b>Section 355 (extremely hazardous substances):</b>	None of the ingredients are listed.
· <b>Section 313 (Specific toxic chemical listings):</b>	None of the ingredients are listed.
· <b>TSCA (Toxic Substances Control Act):</b>	
	Proprietary Fluorinated Fluid
67-64-1	Acetone
- **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.

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· **Carcinogenic categories:**

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

67-64-1	Acetone	I
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· **TLV (Threshold Limit Value established by ACGIH):**

67-64-1	Acetone	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:**



· **Signal word: Warning**

· **Hazard statements:**

H319 Causes serious eye irritation.

· **Precautionary statements:**

P264 Wash thoroughly after handling.

P280 Wear eye protection / face protection.

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.

· **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)

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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  
BEI: Biological Exposure Limit  
Flammable Liquids 2: Flammable liquids – Category 2  
Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A  
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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