

Safety Data Sheet (SDS)

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

Issue date 07/30/2024

Reviewed on 07/30/2024

1 Identification

· **Product Identifier**

· **Trade Name: FluoSolv 5408**

· **Relevant identified uses of the substance or mixture and uses advised against:**
Vapor degreasing. Cold cleaning. Spray cleaning. Aerosol applications. Carrier Fluids.
Industrial use only.

· **Product Description:**

Azeotropic solvent blend.

Non-PFAS solution for vapor degreasing, cold cleaning, spray cleaning, aerosol applications, carrier fluids.

· **Application of the substance / the mixture: Precision Cleaning**

· **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:**



Acute Toxicity - Oral 4

H302

Harmful if swallowed.

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 statements:**

H302 Harmful if swallowed.

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.

(Contd. on page 2)

US

Safety Data Sheet (SDS)

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

Issue date 07/30/2024

Reviewed on 07/30/2024

Trade Name: FluoSolv 5408

- 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.
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.
P411 Store at temperatures not exceeding 100°F.
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 Non-PFAS Solvents	1-15%
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· **Chemical characterization: Substance**

· **Description:**

Mixture: consisting of the following components.
Mixture of substances listed below with non-hazardous additions.

· **Dangerous Components:**

CAS: 156-60-5	trans-dichloroethylene	85-99%
RTECS: KV 9400000	⚠ Flammable Liquids 2, H225; ⚠ Acute Toxicity - Inhalation 4, H332	

· **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.

Fluosolv 5408 does not contain any PFAS per the, "EPA Reporting and Recordkeeping Requirements for Perfluoroalkyl and Polyfluoroalkyl Substances", final rule dated September 28, 2023.

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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.
In case of unconsciousness place patient stably in the side position for transportation.
- **After skin contact:** 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.
If easy to do so, remove contact lenses if worn.
- **After swallowing:**
Do not induce vomiting.
Never give anything by mouth to an unconscious person.
Immediately call 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:** Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** Use appropriate extinguishers
- **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:**
Ventilate area, especially in low or enclosed places where heavy vapors might collect.
In case of insufficient ventilation, wear suitable respiratory equipment.
- **Environmental precautions:** Dilute with plenty of water.
- **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.

(Contd. on page 4)

US

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

Issue date 07/30/2024

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Trade Name: FluoSolv 5408

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.

· **PAC-1:**

156-60-5	trans-dichloroethylene	280 ppm
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· **PAC-2:**

156-60-5	trans-dichloroethylene	1,000 ppm
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· **PAC-3:**

156-60-5	trans-dichloroethylene	1,700 ppm
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7 Handling and Storage

· **Handling**

· **Precautions for safe handling:**

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 recommended.

· **Information about protection against explosions and fires:** No special measures required.

· **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/m ³ , 200 ppm
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REL	Long-term value: 790 mg/m ³ , 200 ppm
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TLV	Long-term value: 200 ppm
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(Contd. on page 5)

US

Safety Data Sheet (SDS)

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

Issue date 07/30/2024

Reviewed on 07/30/2024

Trade Name: FluoSolv 5408

· **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:**

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

· **Body protection:**



Use protective suit.

· **Limitation and supervision of exposure into the environment:** None

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

(Contd. on page 6)

US

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

Issue date 07/30/2024

Reviewed on 07/30/2024

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· pH-value:	Not determined.
· Change in condition	
Melting point/Melting range:	Not determined.
Boiling point/Boiling range:	47 °C (116.6 °F)
· Flash point:	None
· Flammability (solid, gaseous):	Not applicable.
· Auto igniting:	Not applicable
· Decomposition temperature:	N/A
· Ignition temperature:	Product is not self-igniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapor pressure @ 20 °C (68 °F):	44.5 kPa
· Density @ 20 °C (68 °F):	1.3 g/cm ³ (10.8485 lbs/gal)
· Relative density:	Not determined.
· Vapor density:	Not determined.
· Evaporation rate:	Not determined.
· Solubility in / Miscibility with:	
Water:	Not miscible (100 ppm max)
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic @ 20 °C (68 °F):	0.41 cP
Kinematic:	Not determined.
· 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 and flame
- **Incompatible materials:**
Avoid contact with Alkali metals and Alkaline earth metals, powdered metal salts, strong bases

(Contd. on page 7)

US

Safety Data Sheet (SDS)

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

Issue date 07/30/2024

Reviewed on 07/30/2024

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· **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	7,902 mg/kg (Rat)
Dermal	LD50	>5,000 mg/kg (rabbit)
Inhalative	LC50/4 h	95.4 mg/l (Rat)
	LC50/96 hours	27.2 mg/l (Cyprinodon variegatus (minnow))
	LC50/48 hrs	79 mg/l (Daphnia)

· **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:

Harmful
Irritant

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

· **Aquatic toxicity:** No further relevant information available.

· **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.

(Contd. on page 8)

US

Safety Data Sheet (SDS)

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

Issue date 07/30/2024

Reviewed on 07/30/2024

Trade Name: FluoSolv 5408

- **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.
- **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.
Must not be disposed of together with household waste. Do not allow product to reach sewage system. Observe all federal, state and local environmental regulations when disposing of this material.*
- **Uncleaned packaging**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport Information

- | |
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| <ul style="list-style-type: none"> · UN-Number: · DOT, ADR/ADN, ADN, IMDG, IATA <i>Non-Regulated Material</i> |
| <ul style="list-style-type: none"> · UN proper shipping name: · DOT, ADR/ADN, ADN, IMDG, IATA <i>Non-Regulated Material</i> |
| <ul style="list-style-type: none"> · Transport hazard class(es): · DOT, ADR/ADN, ADN, IMDG, IATA · Class: <i>Non-Regulated Material</i> |
| <ul style="list-style-type: none"> · Packing group: · DOT, ADR/ADN, IMDG, IATA <i>Non-Regulated Material</i> |
| <ul style="list-style-type: none"> · Environmental hazards: <i>Not applicable.</i> |
| <ul style="list-style-type: none"> · Special precautions for user: <i>Not applicable.</i> |
| <ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: <i>Not applicable.</i> |
| <ul style="list-style-type: none"> · UN "Model Regulation": <i>Non-Regulated Material</i> |

US

(Contd. on page 9)

Safety Data Sheet (SDS)

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

Issue date 07/30/2024

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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.

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

156-60-5 trans-dichloroethylene

ACTIVE

- **Hazardous Air Pollutants**

None of the 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.

- **New Jersey Right-to-Know List:**

None of the ingredients are listed.

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

None of the ingredients are listed.

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

156-60-5 trans-dichloroethylene

- **Pennsylvania Special Hazardous Substance List:**

156-60-5 trans-dichloroethylene

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- **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).

(Contd. on page 10)

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Issue date 07/30/2024

Reviewed on 07/30/2024

Trade Name: FluoSolv 5408

· **Hazard pictograms:**



· **Signal word:** Warning

· **Hazard statements:**

H302 Harmful if swallowed.

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.

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.

P411 Store at temperatures not exceeding 100°F.

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)

LC50: Lethal concentration, 50 percent

(Contd. on page 11)

US

Safety Data Sheet (SDS)

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

Issue date 07/30/2024

Reviewed on 07/30/2024

Trade Name: FluoSolv 5408

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 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.**

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

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