

1 Identification

- **Product identifier**
- **Trade name: Semi-Volatiles Mixture 11**
- **Part number:** SVM-131-1
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
ULTRA Scientific, Inc.
250 Smith Street
North Kingstown, RI 02852
USA
- **Information department:**
Telephone: (401) 294-9400
Fax: (401) 295-2300
E-mail: regulatory@ultrasci.com
- **Emergency telephone number:**
US: (800) 424-9300
Outside US: (703) 527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Muta. 1A H340 May cause genetic defects.

Carc. 1B H350 May cause cancer.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H312 Harmful in contact with skin.

- **Label elements**

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS07 GHS08

- **Signal word** Danger

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

dichloromethane
1,3,5-trinitrobenzene
ethyl methanesulfonate
methyl methanesulfonate

- **Hazard statements**

Harmful if swallowed or in contact with skin.
May cause genetic defects.

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May cause cancer.

· **Precautionary statements**

- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Wash thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Wear protective gloves/protective clothing/eye protection/face protection.
- IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
- IF ON SKIN: Wash with plenty of water.
- IF exposed or concerned: Get medical advice/attention.
- Specific treatment (see on this label).
- Rinse mouth.
- Take off contaminated clothing and wash it before reuse.
- Store locked up.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 1
Fire = 0
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = *1
Fire = 0
Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

75-09-2	dichloromethane	99.548%
66-27-3	methyl methanesulfonate	0.151%
62-50-0	ethyl methanesulfonate	0.151%

4 First-aid measures

· **Description of first aid measures**

· **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

- **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.
- **After swallowing:** Immediately call a doctor.

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- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 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.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

75-09-2	dichloromethane	200 ppm
99-35-4	1,3,5-trinitrobenzene	1.5 mg/m3
62-50-0	ethyl methanesulfonate	2.1 mg/m3

· **PAC-2:**

75-09-2	dichloromethane	560 ppm
99-35-4	1,3,5-trinitrobenzene	16 mg/m3
62-50-0	ethyl methanesulfonate	23 mg/m3

· **PAC-3:**

75-09-2	dichloromethane	6,900 ppm
99-35-4	1,3,5-trinitrobenzene	54 mg/m3
62-50-0	ethyl methanesulfonate	140 mg/m3

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
- **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:** No special requirements.

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- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **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 item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

75-09-2 dichloromethane

PEL	Short-term value: 125 ppm Long-term value: 25 ppm see 29 CFR 1910.1052
REL	See Pocket Guide App. A
TLV	Long-term value: 174 mg/m ³ , 50 ppm BEI

· **Ingredients with biological limit values:**

75-09-2 dichloromethane

BEI	0.3 mg/L Medium: urine Time: end of shift Parameter: Dichloromethane (semi-quantitative)
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- **Additional information:** The lists that were valid during the creation 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.
Store protective clothing separately.
Avoid contact with the eyes and skin.
- **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

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.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the 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 can not 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 found out by the manufacturer of the protective gloves and has to be observed.

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· **Eye protection:**

Safety glasses



Tightly sealed goggles

9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

· Form:	Fluid
· Color:	Colorless
· Odor:	Like chlorine
· Odor threshold:	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

· Melting point/Melting range:	-95.1°C (°F)
· Boiling point/Boiling range:	40°C (°F)

· **Flash point:** Not applicable.

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

· **Ignition temperature:** 605°C (°F)

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

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

· **Explosion limits:**

· Lower:	13 Vol %
· Upper:	22 Vol %

· **Vapor pressure at 20°C (68 °F):** 360 hPa (mm Hg)

· **Density at 20°C (68 °F):** 1.3 g/cm³ (lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

· **Water at 20°C (68 °F):** 20 g/l

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

· Dynamic:	Not determined.
· Kinematic:	Not determined.

· **Solvent content:**

· **Organic solvents:** 99.5 %

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VOC content:	0.00 % 0.0 g/l / 0.00 lb/gl
Solids content:	0.2 %
Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **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:**

ATE (Acute Toxicity Estimate)		
Oral	LD50	1,576 mg/kg (rat)
Dermal	LD50	>1,251 mg/kg
Inhalative	LC50/4 h	69.8 mg/L

75-09-2 dichloromethane

Oral	LD50	1,600 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	88 mg/L (rat)

66-27-3 methyl methanesulfonate

Oral	LD50	225 mg/kg (rat)
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99-35-4 1,3,5-trinitrobenzene

Oral	LD50	275 mg/kg (rat)
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62-50-0 ethyl methanesulfonate

Oral	LD50	470 mg/kg (mouse)
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- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful

· **Carcinogenic categories**

IARC (International Agency for Research on Cancer)	
75-09-2 dichloromethane	2A

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66-27-3	methyl methanesulfonate	2A
62-50-0	ethyl methanesulfonate	2B
· NTP (National Toxicology Program)		
75-09-2	dichloromethane	R
66-27-3	methyl methanesulfonate	R
62-50-0	ethyl methanesulfonate	R
· OSHA-Ca (Occupational Safety & Health Administration)		
75-09-2	dichloromethane	

12 Ecological information

- **Toxicity**
- **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.
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
- **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:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- **UN-Number**
- **DOT, IMDG, IATA** UN2810
- **UN proper shipping name**
- **DOT** Toxic, liquids, organic, n.o.s. (Dichloromethane)
- **IMDG, IATA** TOXIC LIQUID, ORGANIC, N.O.S. (DICHLOROMETHANE)

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· **Transport hazard class(es)**

· **DOT**



· **Class** 6.1 Toxic substances
· **Label** 6.1

· **IMDG, IATA**



· **Class** 6.1 Toxic substances
· **Label** 6.1

· **Packing group**

· **DOT, IMDG, IATA** III

· **Environmental hazards:** Not applicable.

· **Special precautions for user** Warning: Toxic substances
· **Danger code (Kemler):** 60
· **EMS Number:** F-A,S-A
· **Segregation groups** Liquid halogenated hydrocarbons
· **Stowage Category** A
· **Stowage Code** SW2 Clear of living quarters.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **DOT**
· **Quantity limitations** On passenger aircraft/rail: 60 L
On cargo aircraft only: 220 L
· **Hazardous substance:** 1000 lbs, 454 kg

· **IMDG**

· **Limited quantities (LQ)** 5L
· **Excepted quantities (EQ)** Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

· **UN "Model Regulation":** UN 2810 TOXIC, LIQUIDS, ORGANIC, N.O.S. (DICHLOROMETHANE), 6.1, III

US

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15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture

· Sara

· Section 355 (extremely hazardous substances):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

75-09-2 dichloromethane

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

· Proposition 65

· Chemicals known to cause cancer:

75-09-2 dichloromethane

66-27-3 methyl methanesulfonate

62-50-0 ethyl methanesulfonate

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Carcinogenic categories

· EPA (Environmental Protection Agency)

75-09-2 dichloromethane

L

· TLV (Threshold Limit Value established by ACGIH)

75-09-2 dichloromethane

A3

· NIOSH-Ca (National Institute for Occupational Safety and Health)

75-09-2 dichloromethane

· GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms



GHS07 GHS08

· Signal word Danger

· Hazard-determining components of labeling:

dichloromethane

1,3,5-trinitrobenzene

ethyl methanesulfonate

methyl methanesulfonate

· Hazard statements

Harmful if swallowed or in contact with skin.

May cause genetic defects.

May cause cancer.

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Trade name: Semi-Volatiles Mixture 11

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- **Precautionary statements**
 - Obtain special instructions before use.
 - Do not handle until all safety precautions have been read and understood.
 - Wash thoroughly after handling.
 - Do not eat, drink or smoke when using this product.
 - Wear protective gloves/protective clothing/eye protection/face protection.
 - IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
 - IF ON SKIN: Wash with plenty of water.
 - IF exposed or concerned: Get medical advice/attention.
 - Specific treatment (see on this label).
 - Rinse mouth.
 - Take off contaminated clothing and wash it before reuse.
 - Store locked up.
 - Dispose of contents/container in accordance with local/regional/national/international regulations.
- **National regulations:**
- **Additional classification according to Decree on Hazardous Materials:**
 - Carcinogenic hazardous material group III (dangerous).
- **Information about limitation of use:**
 - Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation.
 - Exceptions can be made by the authorities in certain cases.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Document Control / Regulatory
- **Contact:** regulatory@ultrasci.com
- **Date of preparation / last revision** 11/06/2017 / 1
- **Abbreviations and acronyms:**
 - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 - 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
 - Acute Tox. 4: Acute toxicity – Category 4
 - Muta. 1A: Germ cell mutagenicity – Category 1A
 - Carc. 1B: Carcinogenicity – Category 1B
- *** Data compared to the previous version altered.**