

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** Method 526 Calibration Mixture
- **Part number:** SVM-526-1
- **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**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS07

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

- **Label elements**

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

- **Hazard pictograms**



GHS02 GHS07

- **Signal word** Danger

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

ethyl acetate

- **Hazard statements**

Highly flammable liquid and vapor.

Causes serious eye irritation.

May cause drowsiness or dizziness.

- **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Use explosion-proof electrical/ventilating/lighting/equipment.

(Contd. on page 2)

Trade name: Method 526 Calibration Mixture

(Contd. of page 1)

Avoid breathing dust/fume/gas/mist/vapors/spray
 Wear protective gloves/protective clothing/eye protection/face protection.
 Ground/bond container and receiving equipment.
 Use only non-sparking tools.
 Take precautionary measures against static discharge.
 Wash thoroughly after handling.
 Use only outdoors or in a well-ventilated area.
 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
 Continue rinsing.
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 Call a POISON CENTER/doctor if you feel unwell.
 If eye irritation persists: Get medical advice/attention.
 In case of fire: Use for extinction: CO2, powder or water spray.
 Store locked up.
 Store in a well-ventilated place. Keep container tightly closed.
 Store in a well-ventilated place. Keep cool.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**



· **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:**

141-78-6	ethyl acetate	99.756%
----------	---------------	---------

4 First-aid measures

· **Description of first aid measures**

· **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 symptoms persist consult doctor.

(Contd. on page 3)

Trade name: Method 526 Calibration Mixture

(Contd. of page 2)

- **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:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **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**
Wear protective equipment. Keep unprotected persons away.
- **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).
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:**

141-78-6	ethyl acetate	1,200 ppm
120-83-2	2,4-dichlorophenol	0.2 ppm
98-95-3	nitrobenzene	3 ppm
88-06-2	2,4,6-trichlorophenol	2.5 mg/m ³
298-04-4	disulfoton	0.18 mg/m ³
944-22-9	fonofos (ISO)	0.3 mg/m ³
13071-79-9	S-tert-butylthiomethyl O,O-diethylphosphorodithioate	0.091 mg/m ³
122-66-7	hydrazobenzene	120 mg/m ³

· **PAC-2:**

141-78-6	ethyl acetate	1,700 ppm
120-83-2	2,4-dichlorophenol	2 ppm
98-95-3	nitrobenzene	20 ppm
88-06-2	2,4,6-trichlorophenol	27 mg/m ³
298-04-4	disulfoton	2 mg/m ³
944-22-9	fonofos (ISO)	1.3 mg/m ³
13071-79-9	S-tert-butylthiomethyl O,O-diethylphosphorodithioate	1 mg/m ³
122-66-7	hydrazobenzene	1,300 mg/m ³

(Contd. on page 4)

Trade name: Method 526 Calibration Mixture

(Contd. of page 3)

· PAC-3:		
141-78-6	ethyl acetate	10000** ppm
120-83-2	2,4-dichlorophenol	20 ppm
98-95-3	nitrobenzene	200 ppm
88-06-2	2,4,6-trichlorophenol	160 mg/m3
298-04-4	disulfoton	8.8 mg/m3
944-22-9	fonofos (ISO)	53 mg/m3
13071-79-9	S-tert-butylthiomethyl O,O-diethylphosphorodithioate	2.2 mg/m3
122-66-7	hydrazobenzene	7,900 mg/m3

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **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:	
141-78-6 ethyl acetate	
PEL	Long-term value: 1400 mg/m ³ , 400 ppm
REL	Long-term value: 1400 mg/m ³ , 400 ppm
TLV	Long-term value: 1440 mg/m ³ , 400 ppm

- **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.
Immediately remove all soiled and contaminated clothing.
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.

(Contd. on page 5)

Trade name: Method 526 Calibration Mixture

(Contd. of page 4)

· **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.
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.

· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form:	Fluid
Color:	Colorless
Odor:	Fruit-like
Odor threshold:	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range:	-83.57 °C (-118 °F)
Boiling point/Boiling range:	77 °C (171 °F)

· **Flash point:** -4 °C (25 °F)

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

· **Ignition temperature:** 460 °C (860 °F)

· **Decomposition temperature:** Not determined.

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

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· **Explosion limits:**

Lower:	2.1 Vol %
Upper:	11.5 Vol %

· **Vapor pressure at 20 °C (68 °F):** 75 hPa (56 mm Hg)

· **Density at 20 °C (68 °F):** 0.9 g/cm³ (7.511 lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not determined.

(Contd. on page 6)

Trade name: Method 526 Calibration Mixture

(Contd. of page 5)

· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water at 20 °C (68 °F):	79 g/l
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	99.8 %
VOC content:	99.8 %
	998.2 g/l / 8.33 lb/gl
Solids content:	0.1 %
· 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 Estimates)		
Inhalative	LC50/4 h	1604 mg/L (rat)
141-78-6 ethyl acetate		
Oral	LD50	5620 mg/kg (rabbit)
Inhalative	LC50/4 h	1600 mg/L (rat)
13071-79-9 S-tert-butylthiomethyl O,O-diethylphosphorodithioate		
Oral	LD50	4.5 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

(Contd. on page 7)

Trade name: Method 526 Calibration Mixture

(Contd. of page 6)

· **Carcinogenic categories**

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

120-83-2	2,4-dichlorophenol	2B
98-95-3	nitrobenzene	2B
88-06-2	2,4,6-trichlorophenol	2B

· **NTP (National Toxicology Program)**

98-95-3	nitrobenzene	R
88-06-2	2,4,6-trichlorophenol	R
122-66-7	hydrazobenzene	R

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

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 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it 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**
- **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	UN1993
· UN proper shipping name	
· DOT	Flammable liquids, n.o.s. (Ethyl acetate)
· IMDG	FLAMMABLE LIQUID, N.O.S. (ETHYL ACETATE, S-tert-butylthiomethyl O,O-diethylphosphorodithioate), MARINE POLLUTANT

(Contd. on page 8)

Trade name: Method 526 Calibration Mixture

(Contd. of page 7)

· IATA	FLAMMABLE LIQUID, N.O.S. (ETHYL ACETATE)
· Transport hazard class(es)	
· DOT	
	
· Class	3 Flammable liquids
· Label	3
<hr style="border-top: 1px dashed #000;"/>	
· IMDG	
 	
· Class	3 Flammable liquids
· Label	3
<hr style="border-top: 1px dashed #000;"/>	
· IATA	
	
· Class	3 Flammable liquids
· Label	3
· Packing group	
· DOT, IMDG, IATA	II
· Environmental hazards:	Product contains environmentally hazardous substances: hydrazobenzene, S-tert-butylthiomethyl O,O- diethylphosphorodithioate
· Marine pollutant:	Symbol (fish and tree)
· Special precautions for user	Warning: Flammable liquids
· Danger code (Kemler):	33
· EMS Number:	F-E, <u>S-E</u>
· Stowage Category	B
· 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: 5 L On cargo aircraft only: 60 L
<hr style="border-top: 1px dashed #000;"/>	
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml

(Contd. on page 9)

Trade name: Method 526 Calibration Mixture

(Contd. of page 8)

· **UN "Model Regulation":** UN 1993 FLAMMABLE LIQUIDS, N.O.S. (ETHYL ACETATE), 3, II, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

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

· **Section 355 (extremely hazardous substances):**

98-95-3	nitrobenzene
298-04-4	disulfoton
944-22-9	fonofos (ISO)
13071-79-9	S-tert-butylthiomethyl O,O-diethylphosphorodithioate

· **Section 313 (Specific toxic chemical listings):**

120-83-2	2,4-dichlorophenol
98-95-3	nitrobenzene
88-06-2	2,4,6-trichlorophenol
21725-46-2	cyanazine (ISO)
333-41-5	diazinon (ISO)
122-66-7	hydrazobenzene

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

141-78-6	ethyl acetate
120-83-2	2,4-dichlorophenol
98-95-3	nitrobenzene
88-06-2	2,4,6-trichlorophenol
333-41-5	diazinon (ISO)
1610-18-0	prometon
122-66-7	hydrazobenzene

· **Proposition 65**

· **Chemicals known to cause cancer:**

98-95-3	nitrobenzene
88-06-2	2,4,6-trichlorophenol
34256-82-1	2-chloro-N-(ethoxymethyl)-N-(2-ethyl-6-methylphenyl)acetamide
122-66-7	hydrazobenzene

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

98-95-3	nitrobenzene
---------	--------------

· **Chemicals known to cause developmental toxicity:**

21725-46-2	cyanazine (ISO)
------------	-----------------

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

98-95-3	nitrobenzene	L
---------	--------------	---

(Contd. on page 10)

Trade name: Method 526 Calibration Mixture

(Contd. of page 9)

88-06-2	2,4,6-trichlorophenol	B2
122-66-7	hydrazobenzene	B2

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

98-95-3	nitrobenzene	A3
333-41-5	diazinon (ISO)	A4
298-04-4	disulfoton	A4
944-22-9	fonofos (ISO)	A4

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

None of the ingredients is listed.

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

· **Hazard pictograms**



GHS02 GHS07

· **Signal word** Danger

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

ethyl acetate

· **Hazard statements**

Highly flammable liquid and vapor.
Causes serious eye irritation.
May cause drowsiness or dizziness.

· **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Use explosion-proof electrical/ventilating/lighting/equipment.
Avoid breathing dust/fume/gas/mist/vapors/spray
Wear protective gloves/protective clothing/eye protection/face protection.
Ground/bond container and receiving equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER/doctor if you feel unwell.
If eye irritation persists: Get medical advice/attention.
In case of fire: Use for extinction: CO2, powder or water spray.
Store locked up.
Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

US

(Contd. on page 11)

Trade name: Method 526 Calibration Mixture

(Contd. of page 10)

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** 03/11/2017 / -
- **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

Flam. Liq. 2: Flammable liquids – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3