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

1.1. Product identifier

Product form : Mixture
Product name : SV GC/MS Tuning Mix
Product code : AL0-101291
Product group : Trade product

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Main use category : Laboratory Use
Industrial/Professional use spec : Industrial
For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Phenova
6390 Joyce Dr. Suite 100
80403 Golden, CO - United States
T 1-866-942-2978 - F 1-866-283-0269
info@phenova.com - www.phenova.com

1.4. Emergency telephone number

Emergency number : ChemTel Assistance (US/Canada) 1-800-255-3924
ChemTel Assistance (International) +1 813-248-0585

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute Tox. 4 (Inhalation)	H332
Carc. 1A	H350
Aquatic Acute 1	H400
Aquatic Chronic 2	H411

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Carc.Cat.1; R45
Xn; R20
N; R51/53
Full text of R-phrases: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labeling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :

GHS07 GHS08 GHS09

Signal word (CLP) : Danger
Hazardous ingredients : benzidine
Hazard statements (CLP) : H332 - Harmful if inhaled
H350 - May cause cancer
H400 - Very toxic to aquatic life
H411 - Toxic to aquatic life with long lasting effects

Precautionary statements (CLP) : P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P271 - Use only outdoors or in a well-ventilated area
P273 - Avoid release to the environment
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P308+P313 - IF exposed or concerned: Get medical advice/attention
P391 - Collect spillage

No labeling applicable

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Methylene Chloride (Component)	(CAS No) 75-09-2 (EC no) 200-838-9 (EC index no) 602-004-00-3	99.6	Carc. 2, H351
benzidine (Component)	(CAS No) 92-87-5 (EC no) 202-199-1 (EC index no) 612-042-00-2	0.1	Acute Tox. 4 (Oral), H302 Carc. 1A, H350 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
4,4'-DDT (Component)	(CAS No) 50-29-3 (EC no) 200-024-3 (EC index no) 602-045-00-7	0.1	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Carc. 2, H351 STOT RE 1, H372 Aquatic Acute 1, H400 (M=100) Aquatic Chronic 1, H410 (M=100)
2,3,4,5,6-pentachlorophenol (Component)	(CAS No) 87-86-5 (EC no) 201-778-6 (EC index no) 604-002-00-8	0.1	Acute Tox. 2 (Oral), H300 Acute Tox. 2 (Dermal), H310 Acute Tox. 2 (Inhalation), H330 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Carc. 2, H351 STOT SE 3, H335 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=10)

Name	Product identifier	Specific concentration limits
benzidine (Component)	(CAS No) 92-87-5 (EC no) 202-199-1 (EC index no) 612-042-00-2	(C >= 0.01) Carc. 1A, H350

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation : Allow victim to breathe fresh air. Allow the victim to rest.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : May cause cancer by inhalation.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Hygiene measures : Gently wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container closed when not in use. Keep container tightly closed and in a well-ventilated place. Keep away from any flames or sparking source.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

4,4'-DDT (50-29-3)		
USA OSHA	OSHA PEL (TWA) (mg/m³)	1 mg/m³

8.2. Exposure controls

Appropriate engineering controls : Either local exhaust or general room ventilation is usually required.

Personal protective equipment : Avoid all unnecessary exposure. Gloves. Protective clothing. Protective goggles. Safety glasses.

Hand protection : Wear chemically resistant protective gloves. Wear suitable gloves resistant to chemical penetration.

Eye protection : Chemical goggles or safety glasses. Safety glasses.

Skin and body protection : Wear chemically protective gloves, lab coat or apron to prevent prolonged or repeated skin contact.

Respiratory protection : Wear appropriate mask.

Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Color	:	Colorless.
Odor	:	characteristic.
pH	:	No data available
Melting point	:	No data available
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Non flammable
Relative density	:	No data available
Solubility	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Explosion limits	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Inhalation: Harmful if inhaled.

SV GC/MS Tuning Mix	
ATE CLP (gases)	4500.000 ppmV/4h
ATE CLP (vapors)	11.000 mg/l/4h
ATE CLP (dust, mist)	1.500 mg/l/4h

benzidine (92-87-5)	
LD50 oral rat	309 mg/kg (Rat; Literature study)
ATE CLP (oral)	309.000 mg/kg body weight

4,4'-DDT (50-29-3)	
LD50 oral rat	87 mg/kg
LD50 dermal rabbit	300 mg/kg
ATE CLP (oral)	87.000 mg/kg body weight
ATE CLP (dermal)	300.000 mg/kg body weight

2,3,4,5,6-pentachlorophenol (87-86-5)	
LD50 oral rat	27 mg/kg (Rat)
LD50 dermal rat	96 mg/kg (Rat)
LD50 dermal rabbit	501 mg/kg (Rabbit)
ATE CLP (oral)	27.000 mg/kg body weight
ATE CLP (dermal)	96.000 mg/kg body weight

2,3,4,5,6-pentachlorophenol (87-86-5)	
ATE CLP (gases)	100.000 ppmV/4h
ATE CLP (vapors)	0.500 mg/l/4h
ATE CLP (dust, mist)	0.050 mg/l/4h

Methylene Chloride (75-09-2)	
LD50 oral rat	> 2000 mg/kg (Rat; Literature study)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit; Literature study)

Skin corrosion/irritation : Not classified
Based on available data, the classification criteria are not met

Serious eye damage/irritation : Not classified
Based on available data, the classification criteria are not met

Respiratory or skin sensitization : Not classified
Based on available data, the classification criteria are not met

Germ cell mutagenicity : Not classified
Based on available data, the classification criteria are not met

Carcinogenicity : May cause cancer.
May cause cancer

Reproductive toxicity : Not classified
Based on available data, the classification criteria are not met

Specific target organ toxicity (single exposure) : Not classified
Based on available data, the classification criteria are not met

Specific target organ toxicity (repeated exposure) : Not classified
Based on available data, the classification criteria are not met

Aspiration hazard : Not classified
Based on available data, the classification criteria are not met

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Toxic to aquatic life with long lasting effects.

benzidine (92-87-5)	
LC50 fish 1	4.35 mg/l (96 h; Salmo sp.)
EC50 Daphnia 1	0.6 mg/l (48 h; Daphnia magna; Chronic)
LC50 fish 2	7.4 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 2	0.32 mg/l (Daphnia magna)
Threshold limit algae 1	20 mg/l (Microcystis aeruginosa)

4,4'-DDT (50-29-3)	
LC50 fish 1	0.01 mg/l Pimephales promelas (fathead minnow) 96 h
LC50 other aquatic organisms 1	0.0034 mg/l Oncorhynchus mykiss (rainbow trouit) 96 h
EC50 Daphnia 1	0.00108 mg/l Immolbilization - Daphnia magna (Water flea) 48 h
LC50 fish 2	0.01 mg/l Lepomis macrochirus (Bluegill) 96 h
LOEC (acute)	150 mg/l Oncorhynchus mykiss (rainbow trout) 3 d
NOEC (acute)	113 mg/l Oncorhynchus mykiss (rainbow trout) 3 d

2,3,4,5,6-pentachlorophenol (87-86-5)	
LC50 fish 1	0.052 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 1	0.01 - 0.36 mg/l (48 h; Daphnia magna)
LC50 fish 2	0.45 mg/l (96 h; Brachydanio rerio)
EC50 Daphnia 2	0.41 mg/l (24 h; Daphnia pulex)
TLM fish 1	0.303 mg/l (30 h; Lepomis macrochirus)
TLM fish 2	0.22 mg/l (96 h; Carassius auratus)
Threshold limit algae 1	0.1 mg/l (96 h; Scenedesmus pannonicus)

Methylene Chloride (75-09-2)	
LC50 fish 1	193 mg/l (96 h; Pimephales promelas; Flow-through system)
EC50 Daphnia 1	168.2 mg/l (48 h; Daphnia magna)
LC50 fish 2	220 mg/l (96 h; Lepomis macrochirus; Flow-through system)
Threshold limit algae 1	1450 mg/l (192 h; Scenedesmus quadricauda; Cell numbers)

Methylene Chloride (75-09-2)	
Threshold limit algae 2	550 mg/l (192 h; Microcystis aeruginosa)

12.2. Persistence and degradability

SV GC/MS Tuning Mix	
Persistence and degradability	May cause long-term adverse effects in the environment.

benzidine (92-87-5)	
Persistence and degradability	Not readily biodegradable in water. Forming sediments in water. Non degradable in the soil. Adsorbs into the soil.

2,3,4,5,6-pentachlorophenol (87-86-5)	
Persistence and degradability	Not readily biodegradable in water. Non degradable in the soil.

Methylene Chloride (75-09-2)	
Persistence and degradability	Not readily biodegradable in water. Biodegradable in the soil.

12.3. Bioaccumulative potential

SV GC/MS Tuning Mix	
Bioaccumulative potential	Not established.

benzidine (92-87-5)	
BCF fish 1	55 (Gambusia affinis)
BCF fish 2	38 - 42 (908 h; Lepomis macrochirus; Muscles)
BCF other aquatic organisms 1	2512 (Chlorophyta)
BCF other aquatic organisms 2	293 (Daphnia magna)
Log Pow	1.34 - 1.81
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

4,4'-DDT (50-29-3)	
BCF fish 1	46670 Oncorhynchus mykiss (rainbow trout) 20 d
Log Pow	6.91

2,3,4,5,6-pentachlorophenol (87-86-5)	
BCF fish 1	770 (768 h; Pimephales promelas)
BCF fish 2	39 - 224 (Cyprinus carpio; Test duration: 8 weeks)
BCF other aquatic organisms 1	1250 (Algae)
Log Pow	4.07 - 5.19
Bioaccumulative potential	High potential for bioaccumulation (Log Kow > 5).

Methylene Chloride (75-09-2)	
BCF fish 1	2 - 40 (Cyprinus carpio; Test duration: 6 weeks)
Log Pow	1.25 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

Methylene Chloride (75-09-2)	
Surface tension	0.028 N/m (20 °C)
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Additional information : Avoid release to the environment

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR) : 2810

UN-No.(IATA) : 2810

14.2. UN proper shipping name

Proper Shipping Name (ADR) : TOXIC LIQUID, ORGANIC, N.O.S.

Proper Shipping Name (IATA)	:	TOXIC LIQUID, ORGANIC, N.O.S.
Proper Shipping Name (IMDG)	:	TOXIC LIQUID, ORGANIC, N.O.S.
Proper Shipping Name (ADN)	:	TOXIC LIQUID, ORGANIC, N.O.S.
Transport document description (ADR)	:	UN 2810 TOXIC LIQUID, ORGANIC, N.O.S. (dichloromethane(75-09-2)), 6.1, III, (D/E), ENVIRONMENTALLY HAZARDOUS

14.3. Packing group

Class (ADR)	:	6.1
Classification code (ADR)	:	T1
Class (IATA)	:	6.1
Class (IMDG)	:	6.1
Class (ADN)	:	6.1
Hazard labels (ADR)	:	6.1

Hazard labels (IATA)	:	6.1

14.4. Packing group

Packing group (ADR)	:	III
Packing group (IATA)	:	III

14.5. Environmental hazards

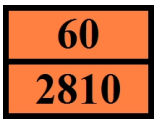
Dangerous for the environment :

Other information : No supplementary information available.

14.6. Special precautions for user

14.6.1. Overland transport

Hazard identification number (Kemler No.)	:	60
Classification code (ADR)	:	T1
Orange plates	:	



Special provision (ADR)	:	274, 614
Transport category (ADR)	:	2
Tunnel restriction code (ADR)	:	D/E
Limited quantities (ADR)	:	100ml
Excepted quantities (ADR)	:	E4

14.6.2. Transport by sea

No additional information available

14.6.3. Air transport

CAO packing instructions (IATA)	:	663
CAO max net quantity (IATA)	:	220L
PCA packing instructions (IATA)	:	655
PCA Limited quantities (IATA)	:	Y642
PCA limited quantity max net quantity (IATA)	:	2L
PCA max net quantity (IATA)	:	60L
PCA Excepted quantities (IATA)	:	E2
Special provision (IATA)	:	A137

ERG code (IATA) : 6L

14.6.4. Inland waterway transport

Carriage prohibited (ADN) : No

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no substances with Annex XVII restrictions

Contains no REACH candidate substance

Contains no REACH Annex XIV substances.

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

PHV SDS EU