Safety Data Sheet
acc. to OSHA HCS

Printing date 06/13/2016 Reviewed on 06/13/2016

1 Identification

· **Product identifier**

· **Product Name: Semi-Volatile 4-Component GC/MS Tuning Standard**

· **Part Number:** CLPS-T4
· **Application of the substance / the mixture** Certified Reference Material

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
SPEX CertiPrep, LLC.
203 Norcross Ave, Metuchen,
NJ 08840 USA

· **Information department:** product safety department
· **Emergency telephone number:**
Emergency Phone Number (24 hours)
CHEMTREC (800-424-9300)
Outside US: 703-527-3887

2 Hazard(s) identification

· **Classification of the substance or mixture**

GHS08 Health hazard

Carc. 1A H350 May cause cancer.

GHS07

Acute Tox. 4 H302 Harmful if swallowed.

· **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
pentachlorophenol
1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane
benzidine
· **Hazard statements**
Harmful if swallowed.
May cause cancer.
· **Precautionary statements**
Wear protective gloves/protective clothing/eye protection/face protection.
Wash thoroughly after handling.
IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
IF exposed or concerned: Get medical advice/attention.
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

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Product Name: Semi-Volatile 4-Component GC/MS Tuning Standard

(Contd. of page 1)

· **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	99.0%
92-87-5	benzidine	0.25%
50-29-3	1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane	0.25%
87-86-5	pentachlorophenol	0.25%

· **Chemical identification of the substance/preparation**		
5074-71-5	bis(pentafluorophenyl) phenyl phosphite	0.25%

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. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact:** Immediately rinse with water.
· **After eye contact:** Rinse opened eye for several minutes under running water.
· **After swallowing:** If symptoms persist consult doctor.
· **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.
· **Special hazards arising from the substance or mixture** No further relevant information available.
· **Advice for firefighters**
· **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures** Not required.
· **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
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.

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Product Name: Semi-Volatile 4-Component GC/MS Tuning Standard

(Contd. of page 2)

7 Handling and storage

· **Handling:**
· **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
· **Information about protection against explosions and fires:** Keep respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** No special requirements.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** 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 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/m³, 50 ppm BEI
92-87-5 benzidine	
PEL	see 29 CFR 1910.1003
REL	See Pocket Guide Apps. A and C
TLV	Skin; L
87-86-5 pentachlorophenol	
PEL	Long-term value: 0.5 mg/m³ Skin
REL	Long-term value: 0.5 mg/m³ Skin
TLV	Short-term value: 1* mg/m³ Long-term value: 0.5* mg/m³ Skin; BEI;*inhalable fraction+vapor

· **Ingredients with biological limit values:**	
75-09-2 dichloromethane	
BEI	0.3 mg/L Medium: urine Time: end of shift Parameter: Dichloromethane (semi-quantitative)
87-86-5 pentachlorophenol	
BEI	2 mg/g creatinine Medium: urine Time: prior to last shift of workweek Parameter: Total pentachlorophenol (background) 5 mg/L Medium: plasma Time: end of shift Parameter: Free pentachlorophenol (background)

· **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.

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Product Name: Semi-Volatile 4-Component GC/MS Tuning Standard

(Contd. of page 3)

Store protective clothing separately.

· **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.

· **Eye protection:**
Safety glasses

Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Liquid
Color:	According to product specification
· **Odor:**	Characteristic
· **Odour Threshold:**	Not applicable.
· **pH-value:**	Not applicable.
· **Change in condition**	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	40 °C (104 °F)
· **Flash point:**	Not applicable.
· **Flammability (solid, gaseous):**	Not applicable.
· **Ignition temperature:**	605 °C (1121 °F)
· **Decomposition temperature:**	Not applicable.
· **Auto igniting:**	Product is not selfigniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	13.0 Vol %
Upper:	22.0 Vol %
· **Vapor pressure at 20 °C (68 °F):**	453 hPa (340 mm Hg)
· **Density**	Not applicable.
· **Relative density**	Not applicable.
· **Vapor density**	Not applicable.
· **Evaporation rate**	Not applicable.
· **Solubility in / Miscibility with**	
Water:	Not miscible or difficult to mix.
· **Partition coefficient (n-octanol/water):**	Not applicable.
· **Viscosity:**	
Dynamic:	Not applicable.
Kinematic:	Not applicable.

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Product Name: Semi-Volatile 4-Component GC/MS Tuning Standard

(Contd. of page 4)

· **Solvent content:**	
Organic solvents:	99.0 %
Solids content:	1.0 %
· **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:**		
75-09-2 dichloromethane		
Oral	LD50	1600 mg/kg (rat)
Inhalative	LC50/4 h	88 mg/l (rat)
50-29-3 1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane		
Oral	LD50	113 mg/kg (rat)
Dermal	LD50	2510 mg/kg (rat)
87-86-5 pentachlorophenol		
Oral	LD50	27 mg/kg (rat)
Dermal	LD50	105 mg/kg (rat)

· **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.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**		
75-09-2	dichloromethane	2B
92-87-5	benzidine	1
50-29-3	1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane	2B
87-86-5	pentachlorophenol	2B

· **NTP (National Toxicology Program)**		
75-09-2	dichloromethane	R
92-87-5	benzidine	K
50-29-3	1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane	R
87-86-5	pentachlorophenol	R

· **OSHA-Ca (Occupational Safety & Health Administration)**	
75-09-2	dichloromethane
92-87-5	benzidine

12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Product Name: Semi-Volatile 4-Component GC/MS Tuning Standard

(Contd. of page 5)

· **Behavior in environmental systems:**
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Ecotoxical effects:**
· **Remark:** Harmful to fish
· **Additional ecological information:**
· **General notes:**
Water hazard class 3 (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
Harmful to aquatic organisms
· **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, ADR, IMDG, IATA**	UN1593
· **UN proper shipping name**	
· **DOT, IATA**	Dichloromethane
· **ADR**	1593 Dichloromethane
· **IMDG**	DICHLOROMETHANE
· **Transport hazard class(es)**	
· **DOT**	
· **Class**	6.1 Toxic substances
· **Label**	6.1
· **ADR, IMDG, IATA**	
· **Class**	6.1 Toxic substances
· **Label**	6.1
· **Packing group**	
· **DOT, ADR, 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
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Product Name: Semi-Volatile 4-Component GC/MS Tuning Standard

(Contd. of page 6)

· **Transport/Additional information:**

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

· **IMDG**
· **Limited quantities (LQ)** 5L

· **UN "Model Regulation":** UN 1593 DICHLOROMETHANE, 6.1, III

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
92-87-5	benzidine
87-86-5	pentachlorophenol

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

75-09-2	dichloromethane
92-87-5	benzidine
50-29-3	1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane
87-86-5	pentachlorophenol

· **Proposition 65**

· **Chemicals known to cause cancer:**

75-09-2	dichloromethane
92-87-5	benzidine
50-29-3	1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane
87-86-5	pentachlorophenol

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

50-29-3	1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane

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

50-29-3	1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane

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

50-29-3	1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

75-09-2	dichloromethane	L
92-87-5	benzidine	A
50-29-3	1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane	B2
87-86-5	pentachlorophenol	L

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

75-09-2	dichloromethane	A3
92-87-5	benzidine	A1
50-29-3	1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane	A3
87-86-5	pentachlorophenol	A3

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

75-09-2	dichloromethane
92-87-5	benzidine
50-29-3	1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane

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

(Contd. on page 8)

Safety Data Sheet
acc. to OSHA HCS

Product Name: Semi-Volatile 4-Component GC/MS Tuning Standard

(Contd. of page 7)

· **Hazard pictograms**

GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**
dichloromethane
pentachlorophenol
1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane
benzidine

· **Hazard statements**
Harmful if swallowed.
May cause cancer.

· **Precautionary statements**
Wear protective gloves/protective clothing/eye protection/face protection.
Wash thoroughly after handling.
IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
IF exposed or concerned: Get medical advice/attention.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **National regulations:**

· **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:** product safety department
· **Contact:**
SPEX CertiPrep, LLC.
1-732-549-7144
· **Date of preparation / last revision** 06/13/2016 / -
· **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)
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, Hazard Category 4
Carc. 1A: Carcinogenicity, Hazard Category 1A