

1 Identification

- **Product identifier**
- **Product Name:** Base/Neutral Surrogate Standard (High Level), 5 mL
- **Part Number:** CLPS-SBH5
- **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**



GHS02 Flame

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



GHS06 Skull and crossbones

Acute Tox. 2 H310 Fatal in contact with skin.



GHS08 Health hazard

Muta. 1B H340 May cause genetic defects.

Carc. 1A H350 May cause cancer.

Repr. 2 H361 Suspected of damaging fertility or the unborn child.

STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

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



GHS06



GHS07



GHS08

- **Signal word** Danger

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

benzene

dichloromethane

Nitrobenzene-d5

- **Hazard statements**

H225 Highly flammable liquid and vapor.

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H302 Harmful if swallowed.
 H310 Fatal in contact with skin.
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H340 May cause genetic defects.
 H350 May cause cancer.
 H361 Suspected of damaging fertility or the unborn child.
 H336 May cause drowsiness or dizziness.
 H372 Causes damage to organs through prolonged or repeated exposure.
 H304 May be fatal if swallowed and enters airways.

· **Precautionary statements**

If medical advice is needed, have product container or label at hand.
 Keep out of reach of children.
 Read label before use.
 If swallowed: Immediately call a poison center/doctor.
 Specific treatment (see on this label).
 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.
 Rinse mouth.
 Take off immediately all 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)**



· **HMSI-ratings (scale 0 - 4)**

HEALTH	3	Health = *3
FIRE	3	Fire = 3
REACTIVITY	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	33.5%
67-64-1	acetone	32.5%
71-43-2	benzene	32.5%
4165-60-0	Nitrobenzene-d5	0.5%

· **Chemical identification of the substance/preparation**

321-60-8	2-Fluorobiphenyl	0.5%
1718-51-0	p-Terphenyl-d14	0.5%

4 First-aid measures

· **Description of first aid measures**

· **General information:**

Immediately remove any clothing soiled by the product.
 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:** Immediately rinse with water.
- **After eye contact:** Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**
 Immediately call a doctor.
 Do not give anything to eat or drink - Do not induce vomiting

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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:** 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** During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
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).
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
67-64-1	acetone	200 ppm
71-43-2	benzene	52 ppm

- **PAC-2:**

75-09-2	dichloromethane	560 ppm
67-64-1	acetone	3200* ppm
71-43-2	benzene	800 ppm

- **PAC-3:**

75-09-2	dichloromethane	6,900 ppm
67-64-1	acetone	5700* ppm
71-43-2	benzene	4000* ppm

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 ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.
- **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.

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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:**

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

At this time, the remaining constituent has no known exposure limits.

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

67-64-1 acetone

PEL Long-term value: 2400 mg/m³, 1000 ppm

REL Long-term value: 590 mg/m³, 250 ppm

TLV Short-term value: 1187 mg/m³, 500 ppm
Long-term value: 594 mg/m³, 250 ppm
BEI

71-43-2 benzene

PEL Short-term value: 15* mg/m³, 5* ppm
Long-term value: 3* mg/m³, 1* ppm
*table Z-2 for exclusions in 29CFR1910.1028(d)

REL Short-term value: 1 ppm
Long-term value: 0.1 ppm
See Pocket Guide App. A

TLV Short-term value: 8 mg/m³, 2.5 ppm
Long-term value: 1.6 mg/m³, 0.5 ppm
Skin; 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)

67-64-1 acetone

BEI 50 mg/L
Medium: urine
Time: end of shift
Parameter: Acetone (nonspecific)

71-43-2 benzene

BEI 25 µg/g creatinine
Medium: urine
Time: end of shift
Parameter: S-Phenylmercapturic acid (background)

500 µg/g creatinine
Medium: urine
Time: end of shift
Parameter: t,t-Muonic acid (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.

Store protective clothing separately.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

- **Respiratory protection:**

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.

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· 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:



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: < 0 °C (<32 °F)

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 465 °C (869 °F)

· Decomposition temperature: Not applicable.

· 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:	1.2 Vol %
Upper:	22 Vol %

· Vapor pressure at 20 °C (68 °F): 453 hPa (339.8 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.

· Solvent content:

Organic solvents:	98.5 %
VOC content:	32.50 %

Solids content: 0.0 %

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· **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	1,600 mg/kg (rat)
Inhalative	LC50/4 h	88 mg/l (rat)

71-43-2 benzene

Oral	LD50	4,894 mg/kg (rat)
Dermal	LD50	48 mg/kg (mouse)
Inhalative	LC50/4 h	9,980 mg/l (mouse)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **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:
Harmful
Irritant
Product is suspected to cause damage to fertility.
Product is suspected to cause birth defects.
The product can cause inheritable damage.

· **Carcinogenic categories**

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

75-09-2	dichloromethane	2A
71-43-2	benzene	I

· **NTP (National Toxicology Program)**

75-09-2	dichloromethane	R
71-43-2	benzene	K

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

75-09-2	dichloromethane	
71-43-2	benzene	

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 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.

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- **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	UN1992
· UN proper shipping name · DOT · ADR · IMDG, IATA	Flammable liquids, toxic, n.o.s. (Acetone, Dichloromethane) 1992 Flammable liquids, toxic, n.o.s. (Acetone, Dichloromethane) FLAMMABLE LIQUID, TOXIC, N.O.S. (ACETONE, DICHLOROMETHANE)
· Transport hazard class(es) · DOT	
	
· Class · Label	3 Flammable liquids 3, 6.1
· ADR	
	
· Class · Label	3 Flammable liquids 3+6.1
· IMDG	
	
· Class · Label	3 Flammable liquids 3/6.1
· IATA	
	
· Class · Label	3 Flammable liquids 3 (6.1)
· Packing group · DOT, ADR, IMDG, IATA	II
· Environmental hazards:	Not applicable.
· Special precautions for user · Danger code (Kemler): · EMS Number: · Segregation groups	Warning: Flammable liquids 336 F-E,S-D Liquid halogenated hydrocarbons

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· Stowage Category	B
· 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:	
· ADR	
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· IMDG	
· Limited quantities (LQ)	IL
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1992 FLAMMABLE LIQUIDS, TOXIC, N.O.S. (ACETONE, DICHLOROMETHANE), 3 (6.1), II

15 Regulatory information

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

· Sara

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

75-09-2 dichloromethane

71-43-2 benzene

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

75-09-2 dichloromethane

67-64-1 acetone

71-43-2 benzene

321-60-8 2-Fluorobiphenyl

· **TSCA new (21st Century Act) (Substances not listed)**

4165-60-0 Nitrobenzene-d5

· **Proposition 65**

· **Chemicals known to cause cancer:**

75-09-2 dichloromethane

71-43-2 benzene

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

None of the ingredients is listed.

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

71-43-2 benzene

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

71-43-2 benzene

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

75-09-2 dichloromethane

L

67-64-1 acetone

I

71-43-2 benzene

A, K/L

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

75-09-2 dichloromethane

A3

67-64-1 acetone

A4

71-43-2 benzene

A1

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

75-09-2 dichloromethane

71-43-2 benzene

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

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· **Hazard pictograms**



· **Signal word** Danger

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

benzene
dichloromethane
Nitrobenzene-d5

· **Hazard statements**

H225 Highly flammable liquid and vapor.
H302 Harmful if swallowed.
H310 Fatal in contact with skin.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H340 May cause genetic defects.
H350 May cause cancer.
H361 Suspected of damaging fertility or the unborn child.
H336 May cause drowsiness or dizziness.
H372 Causes damage to organs through prolonged or repeated exposure.
H304 May be fatal if swallowed and enters airways.

· **Precautionary statements**

If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
If swallowed: Immediately call a poison center/doctor.
Specific treatment (see on this label).
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.
Rinse mouth.
Take off immediately all 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:** product safety department

· **Contact:**

SPEX CertiPrep, LLC.
1-732-549-7144

· **Date of preparation / last revision** 01/03/2019 / -

· **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

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PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
BEI: Biological Exposure Limit
Flam. Liq. 2: Flammable liquids – Category 2
Acute Tox. 4: Acute toxicity – Category 4
Acute Tox. 2: Acute toxicity – Category 2
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Muta. 1B: Germ cell mutagenicity – Category 1B
Carc. 1A: Carcinogenicity – Category 1A
Repr. 2: Reproductive toxicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1
Asp. Tox. 1: Aspiration hazard – Category 1

US