

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 01/06/2016

Reviewed on 01/06/2016

## 1 Identification

- **Product identifier**
- **Product Name:** Base/Neutral Surrogate Mix
- **Part Number:** ECS-Z-022
- **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. 2     H351 Suspected of causing cancer.  
Repr. 2     H361 Suspected of damaging fertility or the unborn child.



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** Warning
- **Hazard-determining components of labeling:**  
dichloromethane  
Nitrobenzene-d5  
1,2-Dichlorobenzene-d4
- **Hazard statements**  
Harmful if swallowed.  
Suspected of causing cancer.  
Suspected of damaging fertility or the unborn child.
- **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

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· **HMIS-ratings (scale 0 - 4)**

HEALTH	*1	Health = *1
FIRE	0	Fire = 0
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	99,6%
4165-60-0	Nitrobenzene-d5	0,1%

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

2199-69-1	1,2-Dichlorobenzene-d4	0,1%
321-60-8	2-Fluorobiphenyl	0,1%
1718-51-0	p-Terphenyl-d14	0,1%

### 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.
- **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:** CO<sub>2</sub>, 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:** 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.

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.

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- **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.
- **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 <sup>3</sup> , 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.
- **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

## 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.

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· <b>Change in condition</b>	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	40 °C (104 °F)
· <b>Flash point:</b>	Not applicable.
· <b>Flammability (solid, gaseous):</b>	Not applicable.
· <b>Ignition temperature:</b>	
Decomposition temperature:	Not applicable.
· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
Lower:	Not applicable.
Upper:	Not applicable.
· <b>Vapor pressure:</b>	Not determined.
· <b>Density</b>	Not applicable.
· <b>Relative density</b>	Not applicable.
· <b>Vapor density</b>	Not applicable.
· <b>Evaporation rate</b>	Not applicable.
· <b>Solubility in / Miscibility with</b>	
Water:	Not miscible or difficult to mix.
· <b>Partition coefficient (n-octanol/water):</b>	Not applicable.
· <b>Viscosity:</b>	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
· <b>Solvent content:</b>	
Organic solvents:	99.6 %
Solids content:	0.2 %
· <b>Other information</b>	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)

- **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:

· **Carcinogenic categories**

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

75-09-2	dichloromethane	2B
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· **NTP (National Toxicology Program)**

75-09-2	dichloromethane	R
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· **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

- |  |   |
|--|---|
| · <b>UN-Number</b><br>· <b>DOT, ADR, IMDG, IATA</b>  | UN1593  |
| · <b>UN proper shipping name</b><br>· <b>DOT, IATA</b><br>· <b>ADR</b><br>· <b>IMDG</b>  | Dichloromethane<br>1593 Dichloromethane<br>DICHLOROMETHANE                    |
| · <b>Transport hazard class(es)</b><br>· <b>DOT</b>  |   |
|   |   |
| · <b>Class</b><br>· <b>Label</b>   | 6.1 Toxic substances<br>6.1   |
| · <b>ADR, IMDG, IATA</b>   |   |
|   |   |
| · <b>Class</b><br>· <b>Label</b>   | 6.1 Toxic substances<br>6.1   |
| · <b>Packing group</b><br>· <b>DOT, ADR, IMDG, IATA</b>  | III   |
| · <b>Environmental hazards:</b>  | Not applicable.   |
| · <b>Special precautions for user</b><br>· <b>Danger code (Kemler):</b><br>· <b>EMS Number:</b><br>· <b>Segregation groups</b> | Warning: Toxic substances<br>60<br>F-A,S-A<br>Liquid halogenated hydrocarbons |

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· <b>Stowage Category</b>	A
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADR</b>	
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	5L
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>UN "Model Regulation":</b>	UN 1593 DICHLOROMETHANE, 6.1, III

### 15 Regulatory information

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

· <b>Section 355 (extremely hazardous substances):</b>
None of the ingredients is listed.

· <b>Section 313 (Specific toxic chemical listings):</b>
75-09-2 dichloromethane

· <b>TSCA (Toxic Substances Control Act):</b>
75-09-2 dichloromethane
321-60-8 2-Fluorobiphenyl

- **Proposition 65**

· <b>Chemicals known to cause cancer:</b>
75-09-2 dichloromethane

· <b>Chemicals known to cause reproductive toxicity for females:</b>
None of the ingredients is listed.

· <b>Chemicals known to cause reproductive toxicity for males:</b>
None of the ingredients is listed.

· <b>Chemicals known to cause developmental toxicity:</b>
None of the ingredients is listed.

- **Carcinogenic categories**

· <b>EPA (Environmental Protection Agency)</b>	
75-09-2 dichloromethane	L

· <b>TLV (Threshold Limit Value established by ACGIH)</b>	
75-09-2 dichloromethane	A3

· <b>NIOSH-Ca (National Institute for Occupational Safety and Health)</b>
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** Warning

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

dichloromethane  
Nitrobenzene-d5  
1,2-Dichlorobenzene-d4

- **Hazard statements**

Harmful if swallowed.  
Suspected of causing cancer.

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*Suspected of damaging fertility or the unborn child.*

· **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.*

· **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** 01/06/2016 / -

· **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)

LCSO: 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. 2: Carcinogenicity, Hazard Category 2

Repr. 2: Reproductive toxicity, Hazard Category 2

US