

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

- **Product identifier**
- **Trade name:** 2,2',4,4',5,6'-Hexachlorobiphenyl
- **Article number:** S-2142
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Application of the substance / the preparation** Certified Reference Material
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
SPEX CertiPrep, Inc - 203 Norcross Ave, Metuchen, NJ 08840
- **Information department:** product safety department
- **Emergency telephone number:**  
Emergency Phone Number (24 hours)  
CHEMTREC (800-424-9300)  
Outside US: 703-527-3887

**2 Hazards identification**

- **Classification of the substance or mixture**



GHS02 Flame

H225 Highly flammable liquid and vapour.



GHS06 Skull and crossbones

H331 Toxic if inhaled.



GHS08 Health hazard

H370 Causes damage to organs.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Toxic

Toxic by inhalation, in contact with skin and if swallowed. Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.



Highly flammable

Highly flammable.

- **Information concerning particular hazards for human and environment:**  
The product has to be labelled due to the calculation procedure of international guidelines.

- **Label elements**
- **GHS label elements** The product is classified and labelled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS02



GHS06



GHS08

- **Signal word** Danger
- **Hazard-determining components of labelling:**  
methanol
- **Hazard statements**  
Highly flammable liquid and vapour.  
Toxic if inhaled.  
Causes damage to organs.
- **Precautionary statements**  
If medical advice is needed, have product container or label at hand.  
Keep out of reach of children.  
Read label before use.

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

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

Do not breathe dust/fume/gas/mist/vapours/spray.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

Store locked up.

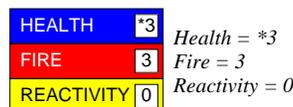
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **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:**

67-56-1	methanol	H225; H301; H311; H331; H370	99.9%
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· **Chemical identification of the substance/preparation**

60145-22-4	2,2',4,4',5,6'-Hexachlorobiphenyl	0.1%
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### 4 First aid measures

· **Description of first aid measures**

· **General information:**

Immediately remove any clothing soiled by the product.

Remove breathing apparatus only after contaminated clothing have been completely removed.

In case of irregular breathing or respiratory arrest provide artificial respiration.

· **After inhalation:**

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:** Do not induce vomiting; immediately call for medical help.

· **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 Firefighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:** CO<sub>2</sub>, sand, extinguishing powder. Do not use water.

· **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:** Mouth respiratory protective device.

### 6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures** Wear protective equipment. Keep unprotected persons away.

· **Environmental precautions:**

Do not allow product to reach sewage system or any water course.

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- Prevent seepage into sewage system, workpits and cellars.
- Inform respective authorities in case of seepage into water course or sewage system.
- **Methods and material for containment and cleaning up:**
  - Dispose contaminated material as waste according to item 13.
  - Ensure adequate ventilation.
  - Do not flush with water or aqueous cleansing agents
- **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.
  - 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.

## 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:**

### 67-56-1 methanol

PEL	260 mg/m <sup>3</sup> , 200 ppm
REL	Short-term value: 325 mg/m <sup>3</sup> , 250 ppm Long-term value: 260 mg/m <sup>3</sup> , 200 ppm
	Skin
TLV	Short-term value: 328 mg/m <sup>3</sup> , 250 ppm Long-term value: 262 mg/m <sup>3</sup> , 200 ppm
	Skin; BEI

- **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 and skin.
- **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

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- **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:	According to product specification
Odor:	Characteristic
Odour threshold:	Not determined.

- **pH-value:** Not determined.

- **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	64°C

- **Flash point:** 11°C

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

- **Ignition temperature:** 455°C

- **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:	5.5 Vol %
Upper:	44.0 Vol %

- **Vapor pressure at 20°C:** 128 hPa

- **Density at 20°C:** 0,78921 g/cm<sup>3</sup>
- **Relative density:** Not determined.
- **Vapour density:** Not determined.
- **Evaporation rate:** Not determined.

- **Solubility in / Miscibility with**

- **Water:** Not miscible or difficult to mix.

- **Segregation coefficient (n-octanol/water):** Not determined.

- **Viscosity:**

Dynamic:	Not determined.
Kinematic:	Not determined.

- **Solvent content:**

Organic solvents:	99,9 %
VOC content:	99,9 %

- **Solids content:** 0,1 %

- **Other information:** No further relevant information available.

### 10 Stability and reactivity

- **Reactivity**

- **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.

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**11 Toxicological information**

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

**67-56-1 methanol**

Oral	LD50	5628 mg/kg (rat)
Dermal	LD50	15800 mg/kg (rabbit)

- **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:  
Toxic

**12 Ecological information**

- **Toxicity**
- **Acquatic 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:** Not known to be hazardous to water.
- **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, IMDG, IATA** FLAMMABLE LIQUID, TOXIC, N.O.S., mixture
- **ADR** 1992 FLAMMABLE LIQUID, TOXIC, N.O.S., mixture

- **Transport hazard class(es)**
- **DOT, IMDG, IATA**



- **Class** 3 Flammable liquids.
- **Label** 3+6.1

- **ADR**



- **Class** 3 Flammable liquids

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· <b>Label</b>	3+6.1
· <b>Packing group</b>	
· <b>DOT, ADR, IMDG, IATA</b>	II
· <b>Special precautions for user</b>	Warning: Flammable liquids
· <b>Danger code (Kemler):</b>	336
· <b>EMS Number:</b>	F-E,S-D
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>UN "Model Regulation":</b>	UN1992, FLAMMABLE LIQUID, TOXIC, N.O.S., mixture, 3 (6.1), II

### 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):**

67-56-1 | methanol

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

67-56-1 | methanol

- **Proposition 65**

- **Chemicals known to cause cancer:**

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

- **Hazard pictograms**



GHS02

GHS06

GHS08

- **Signal word** Danger

- **Hazard-determining components of labelling:**

methanol

- **Hazard statements**

Highly flammable liquid and vapour.

Toxic if inhaled.

Causes damage to organs.

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**· Precautionary statements***If medical advice is needed, have product container or label at hand.**Keep out of reach of children.**Read label before use.**Keep away from heat/sparks/open flames/hot surfaces. - No smoking.**Use explosion-proof electrical/ventilating/lighting/equipment.**Do not breathe dust/fume/gas/mist/vapours/spray.**IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.**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.***· Relevant phrases***H225 Highly flammable liquid and vapour.**H301 Toxic if swallowed.**H311 Toxic in contact with skin.**H331 Toxic if inhaled.**H370 Causes damage to organs.***· Department issuing MSDS:** product safety department**· Contact:***SPEX CertiPrep Inc.**732-549-7144*

USA