

**1 Identification**

- **Product identifier**
- **Product Name:** HICAL ACIDS MIX
- **Part Number:** HICAL-ACIDS
- **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.



GHS08 Health hazard

Carc. 2 H351 Suspected of causing cancer.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Sens. 1 H317 May cause an allergic skin reaction.

- **Label elements**

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

- **Hazard pictograms**



GHS02



GHS07



GHS08

- **Signal word** Danger

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

dichloromethane

DNOC

2,4-dinitrophenol

pentachlorophenol

chlorocresol

- **Hazard statements**

H225 Highly flammable liquid and vapor.

H302 Harmful if swallowed.

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

- **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.

Avoid breathing dust/fume/gas/mist/vapors/spray

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

Store locked up.

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

Printing date 11/06/2018

Reviewed on 11/06/2018

**Product Name: HICAL ACIDS MIX**

(Contd. of page 1)

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

- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**

HEALTH	1	Health = 1
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	97.0%
120-83-2	2,4-dichlorophenol	0.2%
88-06-2	2,4,6-trichlorophenol	0.2%
95-57-8	2-chlorophenol	0.2%
534-52-1	DNOC	0.2%
59-50-7	chlorocresol	0.2%
87-86-5	pentachlorophenol	0.2%
95-95-4	2,4,5-trichlorophenol	0.2%

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

105-67-9	2,4-xylenol	0.2%
51-28-5	2,4-dinitrophenol	0.2%
95-48-7	o-cresol	0.2%
88-75-5	2-nitrophenol	0.2%
106-44-5	p-cresol	0.2%
100-02-7	4-nitrophenol	0.2%
65-85-0	Benzoic acid	0.2%
108-95-2	phenol	0.2%

### 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:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:**  
Immediately call a doctor.  
Do not give anything to eat or drink - Do not induce vomiting
- **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.

US

(Contd. on page 3)

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

Printing date 11/06/2018

Reviewed on 11/06/2018

Product Name: HICAL ACIDS MIX

(Contd. of page 2)

**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:** 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.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

75-09-2	dichloromethane	200 ppm
120-83-2	2,4-dichlorophenol	0.2 ppm
105-67-9	2,4-xylenol	6.9 mg/m <sup>3</sup>
51-28-5	2,4-dinitrophenol	0.61 mg/m <sup>3</sup>
88-06-2	2,4,6-trichlorophenol	2.5 mg/m <sup>3</sup>
95-57-8	2-chlorophenol	2.3 mg/m <sup>3</sup>
534-52-1	DNOC	0.6 mg/m <sup>3</sup>
88-75-5	2-nitrophenol	2.1 mg/m <sup>3</sup>
59-50-7	chlorocresol	5.5 mg/m <sup>3</sup>
100-02-7	4-nitrophenol	0.69 mg/m <sup>3</sup>
65-85-0	Benzoic acid	13 mg/m <sup>3</sup>
87-86-5	pentachlorophenol	1 mg/m <sup>3</sup>
108-95-2	phenol	15 ppm
95-95-4	2,4,5-trichlorophenol	2.5 mg/m <sup>3</sup>

· **PAC-2:**

75-09-2	dichloromethane	560 ppm
120-83-2	2,4-dichlorophenol	2 ppm
105-67-9	2,4-xylenol	76 mg/m <sup>3</sup>
51-28-5	2,4-dinitrophenol	6.8 mg/m <sup>3</sup>
88-06-2	2,4,6-trichlorophenol	27 mg/m <sup>3</sup>
95-57-8	2-chlorophenol	25 mg/m <sup>3</sup>
534-52-1	DNOC	0.83 mg/m <sup>3</sup>
88-75-5	2-nitrophenol	23 mg/m <sup>3</sup>
59-50-7	chlorocresol	60 mg/m <sup>3</sup>
100-02-7	4-nitrophenol	7.6 mg/m <sup>3</sup>
65-85-0	Benzoic acid	140 mg/m <sup>3</sup>
87-86-5	pentachlorophenol	15 mg/m <sup>3</sup>
108-95-2	phenol	23 ppm
95-95-4	2,4,5-trichlorophenol	27 mg/m <sup>3</sup>

· **PAC-3:**

75-09-2	dichloromethane	6,900 ppm
120-83-2	2,4-dichlorophenol	20 ppm
105-67-9	2,4-xylenol	460 mg/m <sup>3</sup>
51-28-5	2,4-dinitrophenol	16 mg/m <sup>3</sup>

(Contd. on page 4)

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

Printing date 11/06/2018

Reviewed on 11/06/2018

**Product Name: HICAL ACIDS MIX**

(Contd. of page 3)

88-06-2	2,4,6-trichlorophenol	160 mg/m <sup>3</sup>
95-57-8	2-chlorophenol	150 mg/m <sup>3</sup>
534-52-1	DNOC	5 mg/m <sup>3</sup>
88-75-5	2-nitrophenol	140 mg/m <sup>3</sup>
59-50-7	chlorocresol	360 mg/m <sup>3</sup>
100-02-7	4-nitrophenol	46 mg/m <sup>3</sup>
65-85-0	Benzoic acid	830 mg/m <sup>3</sup>
87-86-5	pentachlorophenol	150 mg/m <sup>3</sup>
108-95-2	phenol	200 ppm
95-95-4	2,4,5-trichlorophenol	160 mg/m <sup>3</sup>

**7 Handling and storage**

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **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:** 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:**  
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.  
At this time, the other constituents have no known exposure limits.

<b>75-09-2 dichloromethane</b>	
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
<b>120-83-2 2,4-dichlorophenol</b>	
WEEL	Long-term value: 1 ppm Skin; Q
<b>534-52-1 DNOC</b>	
PEL	Long-term value: 0.2 mg/m <sup>3</sup> Skin
REL	Long-term value: 0.2 mg/m <sup>3</sup> Skin
TLV	Long-term value: (0.2) NIC-0.2* mg/m <sup>3</sup> *inhalable fraction + vapor; Skin
<b>87-86-5 pentachlorophenol</b>	
PEL	Long-term value: 0.5 mg/m <sup>3</sup> Skin
REL	Long-term value: 0.5 mg/m <sup>3</sup> Skin
TLV	Short-term value: 1* mg/m <sup>3</sup> Long-term value: 0.5* mg/m <sup>3</sup> Skin; BEI; *inhalable fraction+vapor

(Contd. on page 5)

US

Product Name: HICAL ACIDS MIX

(Contd. of page 4)

· **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.  
 Wash hands before breaks and at the end of work.  
 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.

· **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.· **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:** 605 °C (1,121 °F)· **Decomposition temperature:** Not applicable.· **Auto igniting:** Product is not selfigniting.

(Contd. on page 6)

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

Printing date 11/06/2018

Reviewed on 11/06/2018

Product Name: HICAL ACIDS MIX

(Contd. of page 5)

· <b>Danger of explosion:</b>	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· <b>Explosion limits:</b>	
Lower:	13 Vol %
Upper:	22 Vol %
· <b>Vapor pressure at 20 °C (68 °F):</b>	453 hPa (339.8 mm Hg)
· <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 Water:</b>	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:	97.4 %
VOC content:	0.40 %
Solids content:	2.8 %
· <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	1,600 mg/kg (rat)
Inhalative	LC50/4 h	88 mg/l (rat)

**88-06-2 2,4,6-trichlorophenol**

Oral	LD50	820 mg/kg (rat)
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**534-52-1 DNOC**

Oral	LD50	10 mg/kg (rat)
Dermal	LD50	1,000 mg/kg (rabbit)

**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 categories**

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

75-09-2	dichloromethane	
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2A

(Contd. on page 7)

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

Printing date 11/06/2018

Reviewed on 11/06/2018

**Product Name: HICAL ACIDS MIX**

(Contd. of page 6)

120-83-2	2,4-dichlorophenol	2B
88-06-2	2,4,6-trichlorophenol	2B
95-57-8	2-chlorophenol	2B
87-86-5	pentachlorophenol	2B
108-95-2	phenol	3
95-95-4	2,4,5-trichlorophenol	2B
<b>· NTP (National Toxicology Program)</b>		
75-09-2	dichloromethane	R
88-06-2	2,4,6-trichlorophenol	R
87-86-5	pentachlorophenol	R
<b>· OSHA-Ca (Occupational Safety &amp; Health Administration)</b>		
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.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **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.  
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** Dichloromethane
- **ADR** 1593 Dichloromethane
- **IMDG, IATA** DICHLOROMETHANE
- **Transport hazard class(es)**
- **DOT**
- 

The image shows a diamond-shaped hazard symbol with a skull and crossbones in the center, the word "TOXIC" written below it, and the number "6" in a small circle at the bottom.
- **Class** 6.1 Toxic substances

(Contd. on page 8)

US


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

Printing date 11/06/2018

Reviewed on 11/06/2018

Product Name: HICAL ACIDS MIX

(Contd. of page 7)

· 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
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· 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
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· 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 313 (Specific toxic chemical listings):	
75-09-2	dichloromethane
120-83-2	2,4-dichlorophenol
105-67-9	2,4-xylenol
51-28-5	2,4-dinitrophenol
88-06-2	2,4,6-trichlorophenol
95-57-8	2-chlorophenol
534-52-1	DNOC
95-48-7	o-cresol
88-75-5	2-nitrophenol
106-44-5	p-cresol
100-02-7	4-nitrophenol
87-86-5	pentachlorophenol
108-95-2	phenol
95-95-4	2,4,5-trichlorophenol
· TSCA (Toxic Substances Control Act):	
All ingredients are listed.	
· TSCA new (21st Century Act) (Substances not listed)	
88-06-2	2,4,6-trichlorophenol
95-57-8	2-chlorophenol
534-52-1	DNOC
59-50-7	chlorocresol
95-95-4	2,4,5-trichlorophenol

(Contd. on page 9)

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

Printing date 11/06/2018

Reviewed on 11/06/2018

**Product Name: HICAL ACIDS MIX**

(Contd. of page 8)

**· Proposition 65****· Chemicals known to cause cancer:**

75-09-2 dichloromethane

88-06-2 2,4,6-trichlorophenol

87-86-5 pentachlorophenol

**· 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)**

75-09-2 dichloromethane L

88-06-2 2,4,6-trichlorophenol B2

95-48-7 o-cresol C

106-44-5 p-cresol C

65-85-0 Benzoic acid D

87-86-5 pentachlorophenol L

108-95-2 phenol D, I

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

75-09-2 dichloromethane A3

87-86-5 pentachlorophenol A3

108-95-2 phenol A4

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

75-09-2 dichloromethane

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

GHS02



GHS07



GHS08

**· Signal word** Danger**· Hazard-determining components of labeling:**

dichloromethane

DNOC

2,4-dinitrophenol

pentachlorophenol

chlorocresol

**· Hazard statements**

H225 Highly flammable liquid and vapor.

H302 Harmful if swallowed.

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

**· 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.

Avoid breathing dust/fume/gas/mist/vapors/spray

If on skin (or hair): 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.

US

(Contd. on page 10)

**Product Name: HICAL ACIDS MIX**

(Contd. of page 9)

## 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** 11/06/2018 / -

· **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

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

Skin Sens. 1: Skin sensitisation – Category 1

Carc. 2: Carcinogenicity – Category 2