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

Printing date 11/20/2018 Reviewed on 11/20/2018

## 1 Identification

· **Product identifier**

· **Product Name: VOC Mix A**

· **Part Number:** 624-A
· **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. 3 H331 Toxic if inhaled.

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 SE 1 H370 Causes damage to organs.
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

GHS07

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 GHS06 GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**
methanol
benzene
carbon tetrachloride
1,1,2,2-tetrachloroethane
(Z)-1,3-dichloropropene
· **Hazard statements**
H225 Highly flammable liquid and vapor.
H331 Toxic if inhaled.
H317 May cause an allergic skin reaction.

(Contd. on page 2)

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

Printing date 11/20/2018 Reviewed on 11/20/2018

**Product Name: VOC Mix A**

(Contd. of page 1)

H340 May cause genetic defects.
H350 May cause cancer.
H361 Suspected of damaging fertility or the unborn child.
H370 Causes damage to organs.
H373 May cause damage to organs through prolonged or repeated exposure.

· **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/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.

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


Health = 1
Fire = 3
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**


Health = *1
Fire = 3
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:** | | |
|---|---|---|
| 67-56-1 | methanol | 94.8% |
| 79-00-5 | 1,1,2-trichloroethane | 0.2% |
| 79-34-5 | 1,1,2,2-tetrachloroethane | 0.2% |
| 107-06-2 | 1,2-dichloroethane | 0.2% |
| 78-87-5 | propylene dichloride | 0.2% |
| 106-46-7 | 1,4-dichlorobenzene | 0.2% |
| 71-43-2 | benzene | 0.2% |
| 75-09-2 | dichloromethane | 0.2% |
| 75-27-4 | bromodichloromethane | 0.2% |
| 67-66-3 | chloroform | 0.2% |
| 56-23-5 | carbon tetrachloride | 0.2% |
| 10061-01-5 | (Z)-1,3-dichloropropene | 0.2% |
| 108-88-3 | toluene | 0.2% |
| 127-18-4 | tetrachloroethylene | 0.2% |
| 79-01-6 | trichloroethylene | 0.2% |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.2% |
| 100-41-4 | ethylbenzene | 0.2% |
| 75-35-4 | 1,1-dichloroethylene | 0.2% |

| · **Chemical identification of the substance/preparation** | | |
|---|---|---|
| 75-34-3 | 1,1-dichloroethane | 0.2% |
| 71-55-6 | 1,1,1-trichloroethane | 0.2% |
| 541-73-1 | 1,3-dichlorobenzene | 0.2% |
| 95-50-1 | 1,2-dichlorobenzene | 0.2% |

(Contd. on page 3)

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

Printing date 11/20/2018 Reviewed on 11/20/2018

**Product Name: VOC Mix A**

(Contd. of page 2)

| | | |
|---|---|---|
| 110-75-8 | 2-chloroethyl vinyl ether | 0.2% |
| 75-25-2 | bromoform | 0.2% |
| 108-90-7 | chlorobenzene | 0.2% |
| 124-48-1 | dibromochloromethane | 0.2% |
| 156-60-5 | trans-dichloroethylene | 0.2% |

## 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.
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.
Do not give anything to eat or drink - Do not induce vomitting
· **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, 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.
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.
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.
· **Protective Action Criteria for Chemicals**

| · **PAC-1:** | | |
|---|---|---|
| 67-56-1 | methanol | 530 ppm |
| 75-34-3 | 1,1-dichloroethane | 300 ppm |
| 71-55-6 | 1,1,1-trichloroethane | 230 ppm |
| 79-00-5 | 1,1,2-trichloroethane | 30 ppm |
| 79-34-5 | 1,1,2,2-tetrachloroethane | 3 ppm |
| 541-73-1 | 1,3-dichlorobenzene | 6 ppm |
| 107-06-2 | 1,2-dichloroethane | 50 ppm |
| 95-50-1 | 1,2-dichlorobenzene | 50 ppm |
| 78-87-5 | propylene dichloride | 30 ppm |

(Contd. on page 4)

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



**Product Name: VOC Mix A**

(Contd. of page 3)

| | | |
|---|---|---|
| 106-46-7 | 1,4-dichlorobenzene | 30 ppm |
| 110-75-8 | 2-chloroethyl vinyl ether | 0.16 ppm |
| 71-43-2 | benzene | 52 ppm |
| 75-09-2 | dichloromethane | 200 ppm |
| 75-25-2 | bromoform | 1.5 ppm |
| 75-27-4 | bromodichloromethane | 1.3 mg/m³ |
| 67-66-3 | chloroform | 2 ppm |
| 108-90-7 | chlorobenzene | 10 ppm |
| 56-23-5 | carbon tetrachloride | 1.2 ppm |
| 124-48-1 | dibromochloromethane | 1.1 mg/m³ |
| 108-88-3 | toluene | 67 ppm |
| 127-18-4 | tetrachloroethylene | 35 ppm |
| 79-01-6 | trichloroethylene | 130 ppm |
| 156-60-5 | trans-dichloroethylene | 280 ppm |
| 100-41-4 | ethylbenzene | 33 ppm |
| 75-35-4 | 1,1-dichloroethylene | 45 ppm |

· **PAC-2:**

| | | |
|---|---|---|
| 67-56-1 | methanol | 2,100 ppm |
| 75-34-3 | 1,1-dichloroethane | 670 ppm |
| 71-55-6 | 1,1,1-trichloroethane | 600 ppm |
| 79-00-5 | 1,1,2-trichloroethane | 180 ppm |
| 79-34-5 | 1,1,2,2-tetrachloroethane | 120 ppm |
| 541-73-1 | 1,3-dichlorobenzene | 66 ppm |
| 107-06-2 | 1,2-dichloroethane | 200 ppm |
| 95-50-1 | 1,2-dichlorobenzene | 170 ppm |
| 78-87-5 | propylene dichloride | 220 ppm |
| 106-46-7 | 1,4-dichlorobenzene | 170 ppm |
| 110-75-8 | 2-chloroethyl vinyl ether | 1.8 ppm |
| 71-43-2 | benzene | 800 ppm |
| 75-09-2 | dichloromethane | 560 ppm |
| 75-25-2 | bromoform | 6.8 ppm |
| 75-27-4 | bromodichloromethane | 14 mg/m³ |
| 67-66-3 | chloroform | 64 ppm |
| 108-90-7 | chlorobenzene | 150 ppm |
| 56-23-5 | carbon tetrachloride | 13 ppm |
| 124-48-1 | dibromochloromethane | 12 mg/m³ |
| 108-88-3 | toluene | 560 ppm |
| 127-18-4 | tetrachloroethylene | 230 ppm |
| 79-01-6 | trichloroethylene | 450 ppm |
| 156-60-5 | trans-dichloroethylene | 1,000 ppm |
| 100-41-4 | ethylbenzene | 1100* ppm |
| 75-35-4 | 1,1-dichloroethylene | 500 ppm |

· **PAC-3:**

| | | |
|---|---|---|
| 67-56-1 | methanol | 7200* ppm |
| 75-34-3 | 1,1-dichloroethane | 4,000 ppm |
| 71-55-6 | 1,1,1-trichloroethane | 4,200 ppm |
| 79-00-5 | 1,1,2-trichloroethane | 500 ppm |
| 79-34-5 | 1,1,2,2-tetrachloroethane | 150 ppm |
| 541-73-1 | 1,3-dichlorobenzene | 400 ppm |
| 107-06-2 | 1,2-dichloroethane | 300 ppm |
| 95-50-1 | 1,2-dichlorobenzene | 1,000 ppm |
| 78-87-5 | propylene dichloride | 2,000 ppm |
| 106-46-7 | 1,4-dichlorobenzene | 1,000 ppm |
| 110-75-8 | 2-chloroethyl vinyl ether | 11 ppm |
| 71-43-2 | benzene | 4000* ppm |

(Contd. on page 5)

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



**Product Name: VOC Mix A**

(Contd. of page 4)

| | | |
|---|---|---|
| 75-09-2 | dichloromethane | 6,900 ppm |
| 75-25-2 | bromoform | 41 ppm |
| 75-27-4 | bromodichloromethane | 85 mg/m³ |
| 67-66-3 | chloroform | 3,200 ppm |
| 108-90-7 | chlorobenzene | 400 ppm |
| 56-23-5 | carbon tetrachloride | 340 ppm |
| 124-48-1 | dibromochloromethane | 73 mg/m³ |
| 108-88-3 | toluene | 3700* ppm |
| 127-18-4 | tetrachloroethylene | 1,200 ppm |
| 79-01-6 | trichloroethylene | 3,800 ppm |
| 156-60-5 | trans-dichloroethylene | 1,700 ppm |
| 100-41-4 | ethylbenzene | 1800* ppm |
| 75-35-4 | 1,1-dichloroethylene | 1,000 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.

## 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.

| | |
|---|---|
| **67-56-1 methanol** | |
| PEL | Long-term value: 260 mg/m³, 200 ppm |
| REL | Short-term value: 325 mg/m³, 250 ppm<br>Long-term value: 260 mg/m³, 200 ppm<br>Skin |
| TLV | Short-term value: 328 mg/m³, 250 ppm<br>Long-term value: 262 mg/m³, 200 ppm<br>Skin; BEI |
| **79-00-5 1,1,2-trichloroethane** | |
| PEL | Long-term value: 45 mg/m³, 10 ppm<br>Skin |
| REL | Long-term value: 45 mg/m³, 10 ppm<br>Skin; See Pocket Guide Apps.A and C |
| TLV | Long-term value: 55 mg/m³, 10 ppm<br>Skin |
| **79-34-5 1,1,2,2-tetrachloroethane** | |
| PEL | Long-term value: 35 mg/m³, 5 ppm<br>Skin |

(Contd. on page 6)

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



**Product Name: VOC Mix A**

(Contd. of page 5)

| | |
|---|---|
| REL | Long-term value: 7 mg/m³, 1 ppm<br>Skin; See Pocket Guide Apps. A and C |
| TLV | Long-term value: 6.9 mg/m³, 1 ppm<br>Skin |
| **107-06-2 1,2-dichloroethane** | |
| PEL | Long-term value: 50 ppm<br>Ceiling limit value: 100; 200* ppm<br>*5-min peak in any 3 hrs |
| REL | Short-term value: 8 mg/m³, 2 ppm<br>Long-term value: 4 mg/m³, 1 ppm<br>See Pocket Guide Apps. A and C |
| TLV | Long-term value: 40 mg/m³, 10 ppm |
| **78-87-5 propylene dichloride** | |
| PEL | Long-term value: 350 mg/m³, 75 ppm |
| REL | See Pocket Guide App. A |
| TLV | Long-term value: 46 mg/m³, 10 ppm<br>DSEN |
| **106-46-7 1,4-dichlorobenzene** | |
| PEL | Long-term value: 450 mg/m³, 75 ppm |
| REL | See Pocket Guide App. A |
| TLV | Long-term value: 60 mg/m³, 10 ppm |
| **71-43-2 benzene** | |
| PEL | Short-term value: 15* mg/m³, 5* ppm<br>Long-term value: 3* mg/m³, 1* ppm<br>*table Z-2 for exclusions in 29CFR1910.1028(d) |
| REL | Short-term value: 1 ppm<br>Long-term value: 0.1 ppm<br>See Pocket Guide App. A |
| TLV | Short-term value: 8 mg/m³, 2.5 ppm<br>Long-term value: 1.6 mg/m³, 0.5 ppm<br>Skin; BEI |
| **75-09-2 dichloromethane** | |
| PEL | Short-term value: 125 ppm<br>Long-term value: 25 ppm<br>see 29 CFR 1910.1052 |
| REL | See Pocket Guide App. A |
| TLV | Long-term value: 174 mg/m³, 50 ppm<br>BEI |
| **67-66-3 chloroform** | |
| PEL | Ceiling limit value: 240 mg/m³, 50 ppm |
| REL | Short-term value: 9.78* mg/m³, 2* ppm<br>*60-min; See Pocket Guide App. A |
| TLV | Long-term value: 49 mg/m³, 10 ppm |
| **56-23-5 carbon tetrachloride** | |
| PEL | Long-term value: 10 ppm<br>Ceiling limit value: 25; 200* ppm<br>*5-min peak in any 4 hrs |
| REL | Short-term value: 12.6* mg/m³, 2* ppm<br>*60-min;See Pocket Guide App. A |
| TLV | Short-term value: 63 mg/m³, 10 ppm<br>Long-term value: 31 mg/m³, 5 ppm<br>Skin |
| **108-88-3 toluene** | |
| PEL | Long-term value: 200 ppm<br>Ceiling limit value: 300; 500* ppm<br>*10-min peak per 8-hr shift |
| REL | Short-term value: 560 mg/m³, 150 ppm<br>Long-term value: 375 mg/m³, 100 ppm |
| TLV | Long-term value: 75 mg/m³, 20 ppm<br>BEI |

(Contd. on page 7)

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

Printing date 11/20/2018 Reviewed on 11/20/2018

**Product Name: VOC Mix A**

(Contd. of page 6)

| **127-18-4 tetrachloroethylene** | |
|---|---|
| PEL | Long-term value: 100 ppm<br>Ceiling limit value: 200; 300* ppm<br>*5-min peak in any 3 hrs |
| REL | Minimize workplace exp. concs.;Pocket Guide App. A |
| TLV | Short-term value: 685 mg/m³, 100 ppm<br>Long-term value: 170 mg/m³, 25 ppm<br>BEI |

| **79-01-6 trichloroethylene** | |
|---|---|
| PEL | Long-term value: 100 ppm<br>Ceiling limit value: 200; 300* ppm<br>*5-min peak in any 2 hrs |
| REL | See Pocket Guide Apps. A and C |
| TLV | Short-term value: 135 mg/m³, 25 ppm<br>Long-term value: 54 mg/m³, 10 ppm<br>BEI |

| **100-41-4 ethylbenzene** | |
|---|---|
| PEL | Long-term value: 435 mg/m³, 100 ppm |
| REL | Short-term value: 545 mg/m³, 125 ppm<br>Long-term value: 435 mg/m³, 100 ppm |
| TLV | Long-term value: 87 mg/m³, 20 ppm<br>BEI |

| **75-35-4 1,1-dichloroethylene** | |
|---|---|
| REL | See Pocket Guide App.A |
| TLV | Long-term value: 20 mg/m³, 5 ppm |

· **Ingredients with biological limit values:**

| **67-56-1 methanol** | |
|---|---|
| BEI | 15 mg/L<br>Medium: urine<br>Time: end of shift<br>Parameter: Methanol (background, nonspecific) |

| **71-43-2 benzene** | |
|---|---|
| BEI | 25 µg/g creatinine<br>Medium: urine<br>Time: end of shift Parameter<br>Parameter: S-Phenylmercapturic acid (background<br><br>500 µg/g creatinine<br>Medium: urine<br>Time: end of shift<br>Parameter: t,t-Muconic acid (background) |

| **75-09-2 dichloromethane** | |
|---|---|
| BEI | 0.3 mg/L<br>Medium: urine<br>Time: end of shift<br>Parameter: Dichloromethane (semi-quantitative) |

| **108-88-3 toluene** | |
|---|---|
| BEI | 0.02 mg/L<br>Medium: blood<br>Time: prior to last shift of workweek<br>Parameter: Toluene<br><br>0.03 mg/L<br>Medium: urine<br>Time: end of shift<br>Parameter: Toluene<br><br>0.3 mg/g creatinine<br>Medium: urine<br>Time: end of shift<br>Parameter: o-Cresol with hydrolysis (background) |

(Contd. on page 8)

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

Printing date 11/20/2018 Reviewed on 11/20/2018

**Product Name: VOC Mix A**

(Contd. of page 7)

| **127-18-4 tetrachloroethylene** | |
|---|---|
| BEI | 3 ppm<br>Medium: end-exhaled air<br>Time: prior to shift<br>Parameter: Tetrachloroethylene<br><br>0.5 mg/L<br>Medium: blood<br>Time: prior to shift<br>Parameter: Tetrachloroethylene |
| **79-01-6 trichloroethylene** | |
| BEI | 15 mg/L<br>Medium: urine<br>Time: end of shift at end of workweek<br>Parameter: Trichloroacetic acid (nonspecific)<br><br>0.5 mg/L<br>Medium: blood<br>Time: end of shift at end of workweek<br>Parameter: Trichloroethanol without hydrolysis (nonspecific)<br><br>-<br>Medium: blood<br>Time: end of shift at end of workweek<br>Parameter: Trichloroethylene (semi-quantitative)<br><br>-<br>Medium: end-exhaled air<br>Time: end of shift at end of workweek<br>Parameter: Trichloroethylene (semi-quantitative) |
| **100-41-4 ethylbenzene** | |
| BEI | 0.7 g/g creatinine<br>Medium: urine<br>Time: end of shift at end of workweek<br>Parameter: Sum of mandelic acid and phenylglyoxylic acid (nonspecific, semi-quantitative)<br><br>-<br>Medium: end-exhaled air<br>Time: not critical<br>Parameter: Ethyl benzene (semi-quantitative) |

· **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.
· **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.

(Contd. on page 9)

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



**Product Name: VOC Mix A**

(Contd. of page 8)

· **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:** | 64.7 °C (148.5 °F) |
| · **Flash point:** | < 23 °C (<73.4 °F) |
| · **Flammability (solid, gaseous):** | Not applicable. |
| · **Ignition temperature:** | 455 °C (851 °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:** | 5.5 Vol % |
| **Upper:** | 44 Vol % |
| · **Vapor pressure at 20 °C (68 °F):** | 128 hPa (96 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:** | 97.2 % |
| **VOC content:** | 96.60 % |
| **Solids content:** | 0.4 % |
| · **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.



(Contd. on page 10)

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



(Contd. of page 9)

## 11 Toxicological information

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

| · **LD/LC50 values that are relevant for classification:** | | |
|---|---|---|
| **67-56-1 methanol** | | |
| Oral | LD50 | 5,628 mg/kg (rat) |
| Dermal | LD50 | 15,800 mg/kg (rabbit) |
| **71-55-6 1,1,1-trichloroethane** | | |
| Oral | LD50 | 10,300 mg/kg (rat) |
| **79-34-5 1,1,2,2-tetrachloroethane** | | |
| Oral | LD50 | 800 mg/kg (rat) |
| **107-06-2 1,2-dichloroethane** | | |
| Oral | LD50 | 670 mg/kg (rat) |
| Dermal | LD50 | 2,800 mg/kg (rat) |
| **95-50-1 1,2-dichlorobenzene** | | |
| Oral | LD50 | 500 mg/kg (rat) |
| **106-46-7 1,4-dichlorobenzene** | | |
| Oral | LD50 | 500 mg/kg (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) |
| **56-23-5 carbon tetrachloride** | | |
| Oral | LD50 | 2,350 mg/kg (rat) |
| Dermal | LD50 | 5,070 mg/kg (rat) |
| **79-01-6 trichloroethylene** | | |
| Oral | LD50 | 2,402 mg/kg (mouse) |
| Dermal | LD50 | 8,450 mg/kg (mouse) |

· **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
Carcinogenic.
The product can cause inheritable damage.

· **Carcinogenic categories**

| · **IARC (International Agency for Research on Cancer)** | | |
|---|---|---|
| 71-55-6 | 1,1,1-trichloroethane | 3 |
| 79-00-5 | 1,1,2-trichloroethane | 3 |
| 79-34-5 | 1,1,2,2-tetrachloroethane | 2B |
| 541-73-1 | 1,3-dichlorobenzene | 3 |
| 107-06-2 | 1,2-dichloroethane | 2B |
| 95-50-1 | 1,2-dichlorobenzene | 3 |
| 78-87-5 | propylene dichloride | 1 |
| 106-46-7 | 1,4-dichlorobenzene | 2B |
| 71-43-2 | benzene | 1 |
| 75-09-2 | dichloromethane | 2A |
| 75-25-2 | bromoform | 3 |
| 75-27-4 | bromodichloromethane | 2B |
| 67-66-3 | chloroform | 2B |
| 56-23-5 | carbon tetrachloride | 2B |
| 124-48-1 | dibromochloromethane | 3 |
| 108-88-3 | toluene | 3 |
| 127-18-4 | tetrachloroethylene | 2A |

(Contd. on page 11)

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

Printing date 11/20/2018 Reviewed on 11/20/2018

**Product Name: VOC Mix A**

(Contd. of page 10)

| | | |
|---|---|---|
| 79-01-6 | trichloroethylene | 1 |
| 100-41-4 | ethylbenzene | 2B |
| 75-35-4 | 1,1-dichloroethylene | 3 |

· **NTP (National Toxicology Program)**

| | | |
|---|---|---|
| 107-06-2 | 1,2-dichloroethane | R |
| 106-46-7 | 1,4-dichlorobenzene | R |
| 71-43-2 | benzene | K |
| 75-09-2 | dichloromethane | R |
| 75-27-4 | bromodichloromethane | R |
| 67-66-3 | chloroform | R |
| 56-23-5 | carbon tetrachloride | R |
| 127-18-4 | tetrachloroethylene | R |
| 79-01-6 | trichloroethylene | K |

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

| | |
|---|---|
| 71-43-2 | benzene |
| 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.
· **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** | UN1230 |
| · **UN proper shipping name** | |
| · **DOT** | Methanol |
| · **ADR** | 1230 Methanol |
| · **IMDG, IATA** | METHANOL |

(Contd. on page 12)

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

*Printing date 11/20/2018* *Reviewed on 11/20/2018*

**Product Name: VOC Mix A**

(Contd. of page 11)

· **Transport hazard class(es)**

· **DOT**


| | |
|---|---|
| · **Class** | 3 Flammable liquids |
| · **Label** | 3, 6.1 |

· **ADR**


| | |
|---|---|
| · **Class** | 3 Flammable liquids |
| · **Label** | 3+6.1 |

· **IMDG**


| | |
|---|---|
| · **Class** | 3 Flammable liquids |
| · **Label** | 3/6.1 |

· **IATA**


| | |
|---|---|
| · **Class** | 3 Flammable liquids |
| · **Label** | 3 (6.1) |
| · **Packing group** | |
| · **DOT, ADR, IMDG, IATA** | II |
| · **Environmental hazards:** | Not applicable. |
| · **Special precautions for user** | Warning: Flammable liquids |
| · **Danger code (Kemler):** | 336 |
| · **EMS Number:** | F-E,S-D |
| · **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<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |
| · **IMDG** | |
| · **Limited quantities (LQ)** | 1L |
| · **Excepted quantities (EQ)** | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |
| · **UN "Model Regulation":** | UN 1230 METHANOL, 3 (6.1), II |



(Contd. on page 13)

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



(Contd. of page 12)

## 15 Regulatory information

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

| · **Section 313 (Specific toxic chemical listings):** | |
|---|---|
| 67-56-1 | methanol |
| 75-34-3 | 1,1-dichloroethane |
| 71-55-6 | 1,1,1-trichloroethane |
| 79-00-5 | 1,1,2-trichloroethane |
| 79-34-5 | 1,1,2,2-tetrachloroethane |
| 541-73-1 | 1,3-dichlorobenzene |
| 107-06-2 | 1,2-dichloroethane |
| 95-50-1 | 1,2-dichlorobenzene |
| 78-87-5 | propylene dichloride |
| 106-46-7 | 1,4-dichlorobenzene |
| 71-43-2 | benzene |
| 75-09-2 | dichloromethane |
| 75-25-2 | bromoform |
| 75-27-4 | bromodichloromethane |
| 67-66-3 | chloroform |
| 108-90-7 | chlorobenzene |
| 56-23-5 | carbon tetrachloride |
| 108-88-3 | toluene |
| 127-18-4 | tetrachloroethylene |
| 79-01-6 | trichloroethylene |
| 10061-02-6 | trans-1,3-Dichloropropene |
| 100-41-4 | ethylbenzene |
| 75-35-4 | 1,1-dichloroethylene |

| · **TSCA (Toxic Substances Control Act):** | |
|---|---|
| 67-56-1 | methanol |
| 75-34-3 | 1,1-dichloroethane |
| 71-55-6 | 1,1,1-trichloroethane |
| 79-00-5 | 1,1,2-trichloroethane |
| 79-34-5 | 1,1,2,2-tetrachloroethane |
| 541-73-1 | 1,3-dichlorobenzene |
| 107-06-2 | 1,2-dichloroethane |
| 95-50-1 | 1,2-dichlorobenzene |
| 78-87-5 | propylene dichloride |
| 106-46-7 | 1,4-dichlorobenzene |
| 110-75-8 | 2-chloroethyl vinyl ether |
| 71-43-2 | benzene |
| 75-09-2 | dichloromethane |
| 75-25-2 | bromoform |
| 75-27-4 | bromodichloromethane |
| 67-66-3 | chloroform |
| 108-90-7 | chlorobenzene |
| 56-23-5 | carbon tetrachloride |
| 124-48-1 | dibromochloromethane |
| 108-88-3 | toluene |
| 127-18-4 | tetrachloroethylene |
| 79-01-6 | trichloroethylene |
| 10061-02-6 | trans-1,3-Dichloropropene |
| 156-60-5 | trans-dichloroethylene |
| 100-41-4 | ethylbenzene |
| 75-35-4 | 1,1-dichloroethylene |

(Contd. on page 14)

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



**Product Name: VOC Mix A**

(Contd. of page 13)

| · **TSCA new (21st Century Act) (Substances not listed)** | |
|---|---|
| 75-27-4 | bromodichloromethane |
| 10061-01-5 | (Z)-1,3-dichloropropene |
| 10061-02-6 | trans-1,3-Dichloropropene |

· **Proposition 65**

| · **Chemicals known to cause cancer:** | |
|---|---|
| 75-34-3 | 1,1-dichloroethane |
| 79-00-5 | 1,1,2-trichloroethane |
| 79-34-5 | 1,1,2,2-tetrachloroethane |
| 107-06-2 | 1,2-dichloroethane |
| 78-87-5 | propylene dichloride |
| 106-46-7 | 1,4-dichlorobenzene |
| 71-43-2 | benzene |
| 75-09-2 | dichloromethane |
| 75-25-2 | bromoform |
| 75-27-4 | bromodichloromethane |
| 67-66-3 | chloroform |
| 56-23-5 | carbon tetrachloride |
| 127-18-4 | tetrachloroethylene |
| 79-01-6 | trichloroethylene |
| 100-41-4 | ethylbenzene |
| 75-35-4 | 1,1-dichloroethylene |

| · **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 |
| 79-01-6 | trichloroethylene |

| · **Chemicals known to cause developmental toxicity:** | |
|---|---|
| 67-56-1 | methanol |
| 71-43-2 | benzene |
| 67-66-3 | chloroform |
| 108-88-3 | toluene |
| 79-01-6 | trichloroethylene |

· **Carcinogenic categories**

| · **EPA (Environmental Protection Agency)** | | |
|---|---|---|
| 75-34-3 | 1,1-dichloroethane | C |
| 71-55-6 | 1,1,1-trichloroethane | II |
| 79-00-5 | 1,1,2-trichloroethane | C |
| 79-34-5 | 1,1,2,2-tetrachloroethane | L |
| 541-73-1 | 1,3-dichlorobenzene | D |
| 107-06-2 | 1,2-dichloroethane | B2 |
| 95-50-1 | 1,2-dichlorobenzene | D |
| 71-43-2 | benzene | A, K/L |
| 75-09-2 | dichloromethane | L |
| 75-25-2 | bromoform | B2 |
| 75-27-4 | bromodichloromethane | B2 |
| 67-66-3 | chloroform | B2, L, NL |
| 108-90-7 | chlorobenzene | D |
| 56-23-5 | carbon tetrachloride | L |
| 124-48-1 | dibromochloromethane | C |
| 108-88-3 | toluene | II |
| 127-18-4 | tetrachloroethylene | L |
| 79-01-6 | trichloroethylene | CaH |
| 156-60-5 | trans-dichloroethylene | II |
| 100-41-4 | ethylbenzene | D |

(Contd. on page 15)

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

Printing date 11/20/2018 Reviewed on 11/20/2018

**Product Name: VOC Mix A**

(Contd. of page 14)

| | | |
|---|---|---|
| 75-35-4 | 1,1-dichloroethylene | C, S (inh.), I (oral) |

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

| | | |
|---|---|---|
| 75-34-3 | 1,1-dichloroethane | A4 |
| 71-55-6 | 1,1,1-trichloroethane | A4 |
| 79-00-5 | 1,1,2-trichloroethane | A3 |
| 79-34-5 | 1,1,2,2-tetrachloroethane | A3 |
| 107-06-2 | 1,2-dichloroethane | A4 |
| 95-50-1 | 1,2-dichlorobenzene | A4 |
| 78-87-5 | propylene dichloride | A4 |
| 106-46-7 | 1,4-dichlorobenzene | A3 |
| 71-43-2 | benzene | A1 |
| 75-09-2 | dichloromethane | A3 |
| 75-25-2 | bromoform | A3 |
| 67-66-3 | chloroform | A3 |
| 108-90-7 | chlorobenzene | A3 |
| 56-23-5 | carbon tetrachloride | A2 |
| 108-88-3 | toluene | A4 |
| 127-18-4 | tetrachloroethylene | A3 |
| 79-01-6 | trichloroethylene | A2 |
| 100-41-4 | ethylbenzene | A3 |
| 75-35-4 | 1,1-dichloroethylene | A4 |

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

| | |
|---|---|
| 79-00-5 | 1,1,2-trichloroethane |
| 79-34-5 | 1,1,2,2-tetrachloroethane |
| 107-06-2 | 1,2-dichloroethane |
| 78-87-5 | propylene dichloride |
| 106-46-7 | 1,4-dichlorobenzene |
| 71-43-2 | benzene |
| 75-09-2 | dichloromethane |
| 67-66-3 | chloroform |
| 56-23-5 | carbon tetrachloride |
| 127-18-4 | tetrachloroethylene |
| 79-01-6 | trichloroethylene |
| 75-35-4 | 1,1-dichloroethylene |

· **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:**
methanol
benzene
carbon tetrachloride
1,1,2,2-tetrachloroethane
(Z)-1,3-dichloropropene
· **Hazard statements**
H225 Highly flammable liquid and vapor.
H331 Toxic if inhaled.
H317 May cause an allergic skin reaction.
H340 May cause genetic defects.
H350 May cause cancer.
H361 Suspected of damaging fertility or the unborn child.
H370 Causes damage to organs.
H373 May cause damage to organs through prolonged or repeated exposure.
· **Precautionary statements**
If medical advice is needed, have product container or label at hand.

(Contd. on page 16)

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



**Product Name: VOC Mix A**

(Contd. of page 15)

*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/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.*

· **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** *11/20/2018 / -*
· **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. 3: Acute toxicity – Category 3*
*Skin Sens. 1: Skin sensitisation – Category 1*
*Muta. 1B: Germ cell mutagenicity – Category 1B*
*Carc. 1A: Carcinogenicity – Category 1A*
*Repr. 2: Reproductive toxicity – Category 2*
*STOT SE 1: Specific target organ toxicity (single exposure) – Category 1*
*STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2*