

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/20/2018

Reviewed on 11/20/2018

1 Identification

- **Product identifier**
- **Product Name:** Stock VOA
- **Part Number:** USP-RS-C2A
- **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

- Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.

- **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 statements**
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H351 Suspected of causing cancer.
H361 Suspected of damaging fertility or the unborn child.
- **Precautionary statements**
If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Wear protective gloves/protective clothing/eye protection/face protection.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/attention.
If skin irritation occurs: 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 = 2
Fire = 1
Reactivity = 0

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· HMIS-ratings (scale 0 - 4)**HEALTH** *2

Health = *2

FIRE 1

Fire = 1

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:

67-68-5	dimethyl sulfoxide	92.28%
110-82-7	cyclohexane	1.94%
67-56-1	methanol	1.5%
108-88-3	toluene	0.445%
109-99-9	tetrahydrofuran	0.345%
75-09-2	dichloromethane	0.3%
123-91-1	1,4-dioxane	0.19%
100-41-4	ethylbenzene	0.184%

· Chemical identification of the substance/preparation

108-38-3	m-xylene	0.651%
108-87-2	methylcyclohexane	0.59%
156-59-2	cis-dichloroethylene	0.47%
156-60-5	trans-dichloroethylene	0.47%
75-05-8	acetonitrile	0.205%
108-90-7	chlorobenzene	0.18%
106-42-3	p-xylene	0.152%
95-47-6	o-xylene	0.098%

4 First-aid measures

- **Description of first aid measures**
- **After inhalation:** 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. If symptoms persist, consult a doctor.
- **After swallowing:** 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.

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.
- **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 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.

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· **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

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:**

67-68-5	dimethyl sulfoxide	150 ppm
110-82-7	cyclohexane	300 ppm
67-56-1	methanol	530 ppm
108-38-3	m-xylene	130 ppm
108-87-2	methylcyclohexane	1200* ppm
156-59-2	cis-dichloroethylene	140 ppm
156-60-5	trans-dichloroethylene	280 ppm
108-88-3	toluene	67 ppm
109-99-9	tetrahydrofuran	100 ppm
75-09-2	dichloromethane	200 ppm
75-05-8	acetonitrile	13 ppm
123-91-1	1,4-dioxane	17 ppm
100-41-4	ethylbenzene	33 ppm
108-90-7	chlorobenzene	10 ppm

· **PAC-2:**

67-68-5	dimethyl sulfoxide	290 ppm
110-82-7	cyclohexane	1700* ppm
67-56-1	methanol	2,100 ppm
108-38-3	m-xylene	920 ppm
108-87-2	methylcyclohexane	1700* ppm
156-59-2	cis-dichloroethylene	500 ppm
156-60-5	trans-dichloroethylene	1,000 ppm
108-88-3	toluene	560 ppm
109-99-9	tetrahydrofuran	500 ppm
75-09-2	dichloromethane	560 ppm
75-05-8	acetonitrile	50 ppm
123-91-1	1,4-dioxane	320 ppm
100-41-4	ethylbenzene	1100* ppm
108-90-7	chlorobenzene	150 ppm

· **PAC-3:**

67-68-5	dimethyl sulfoxide	1,800 ppm
110-82-7	cyclohexane	10000** ppm
67-56-1	methanol	7200* ppm
108-38-3	m-xylene	2500* ppm
108-87-2	methylcyclohexane	10000** ppm
156-59-2	cis-dichloroethylene	850 ppm
156-60-5	trans-dichloroethylene	1,700 ppm
108-88-3	toluene	3700* ppm
109-99-9	tetrahydrofuran	5000* ppm
75-09-2	dichloromethane	6,900 ppm
75-05-8	acetonitrile	150 ppm
123-91-1	1,4-dioxane	760 ppm
100-41-4	ethylbenzene	1800* ppm
108-90-7	chlorobenzene	400 ppm

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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:**

67-68-5 dimethyl sulfoxide

WEEL Long-term value: 250 ppm

110-82-7 cyclohexanePEL Long-term value: 1050 mg/m³, 300 ppmREL Long-term value: 1050 mg/m³, 300 ppmTLV Long-term value: 344 mg/m³, 100 ppm**67-56-1 methanol**PEL Long-term value: 260 mg/m³, 200 ppmREL Short-term value: 325 mg/m³, 250 ppm
Long-term value: 260 mg/m³, 200 ppm
SkinTLV Short-term value: 328 mg/m³, 250 ppm
Long-term value: 262 mg/m³, 200 ppm
Skin; BEI**108-88-3 toluene**PEL Long-term value: 200 ppm
Ceiling limit value: 300; 500* ppm
*10-min peak per 8-hr shiftREL Short-term value: 560 mg/m³, 150 ppm
Long-term value: 375 mg/m³, 100 ppmTLV Long-term value: 75 mg/m³, 20 ppm
BEI**109-99-9 tetrahydrofuran**PEL Long-term value: 590 mg/m³, 200 ppmREL Short-term value: 735 mg/m³, 250 ppm
Long-term value: 590 mg/m³, 200 ppmTLV Short-term value: 295 mg/m³, 100 ppm
Long-term value: 147 mg/m³, 50 ppm
Skin**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**123-91-1 1,4-dioxane**PEL Long-term value: 360 mg/m³, 100 ppm
Skin

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REL	Ceiling limit value: 3.6* mg/m ³ , 1* ppm *30-min; See Pocket Guide App. A
TLV	Long-term value: 72 mg/m ³ , 20 ppm Skin
100-41-4 ethylbenzene	
PEL	Long-term value: 435 mg/m ³ , 100 ppm
REL	Short-term value: 545 mg/m ³ , 125 ppm Long-term value: 435 mg/m ³ , 100 ppm
TLV	Long-term value: 87 mg/m ³ , 20 ppm BEI
· Ingredients with biological limit values:	
67-56-1 methanol	
BEI	15 mg/L Medium: urine Time: end of shift Parameter: Methanol (background, nonspecific)
108-88-3 toluene	
BEI	0.02 mg/L Medium: blood Time: prior to last shift of workweek Parameter: Toluene
	0.03 mg/L Medium: urine Time: end of shift Parameter: Toluene
	0.3 mg/g creatinine Medium: urine Time: end of shift Parameter: o-Cresol with hydrolysis (background)
109-99-9 tetrahydrofuran	
BEI	2 mg/L Medium: urine Time: end of shift Parameter: Tetrahydrofuran
75-09-2 dichloromethane	
BEI	0.3 mg/L Medium: urine Time: end of shift Parameter: Dichloromethane (semi-quantitative)
100-41-4 ethylbenzene	
BEI	0.7 g/g creatinine Medium: urine Time: end of shift at end of workweek Parameter: Sum of mandelic acid and phenylglyoxylic acid (nonspecific, semi-quantitative)
	- Medium: end-exhaled air Time: not critical 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.
- 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:	189 °C (372.2 °F)

· Flash point: > 60 °C (>140 °F)

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 270 °C (518 °F)

· Decomposition temperature: Not applicable.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product does not present an explosion hazard.

· Explosion limits:

Lower:	1.8 Vol %
Upper:	63 Vol %

· Vapor pressure at 20 °C (68 °F): 2.5 hPa (1.9 mm Hg)

· Density at 20 °C (68 °F) 1.0844 g/cm³ (9.04932 lbs/gal)

· 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:	99.6 %
VOC content:	99.32 %

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:**

67-68-5 dimethyl sulfoxide

Oral	LD50	14,500 mg/kg (rat)
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110-82-7 cyclohexane

Oral	LD50	12,705 mg/kg (rat)
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67-56-1 methanol

Oral	LD50	5,628 mg/kg (rat)
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Dermal	LD50	15,800 mg/kg (rabbit)
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- **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:
Irritant

- **Carcinogenic categories**

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

108-38-3	m-xylene	3
108-88-3	toluene	3
75-09-2	dichloromethane	2A
123-91-1	1,4-dioxane	2B
100-41-4	ethylbenzene	2B
106-42-3	p-xylene	3
95-47-6	o-xylene	3

- **NTP (National Toxicology Program)**

75-09-2	dichloromethane	R
123-91-1	1,4-dioxane	R

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

75-09-2	dichloromethane
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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 1 (Self-assessment): slightly hazardous for water

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- Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
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, ADN, IMDG, IATA | Not Regulated |
| · UN proper shipping name
· DOT, ADR, ADN, IMDG, IATA | Not Regulated |
| · Transport hazard class(es)
· DOT, ADR, ADN, IMDG, IATA
· Class | Not Regulated |
| · Packing group
· DOT, ADR, IMDG, IATA | Not Regulated |
| · Environmental hazards: | Not applicable. |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | Not Regulated |

15 Regulatory information

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

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

110-82-7	cyclohexane
67-56-1	methanol
108-38-3	m-xylene
108-88-3	toluene
75-09-2	dichloromethane
75-05-8	acetonitrile
123-91-1	1,4-dioxane
100-41-4	ethylbenzene
108-90-7	chlorobenzene
106-42-3	p-xylene
95-47-6	o-xylene

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

All ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

75-09-2	dichloromethane
123-91-1	1,4-dioxane
100-41-4	ethylbenzene

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· **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:**

67-56-1 methanol

108-88-3 toluene

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

110-82-7	cyclohexane	I
108-38-3	m-xylene	I
156-59-2	cis-dichloroethylene	II
156-60-5	trans-dichloroethylene	II
108-88-3	toluene	II
109-99-9	tetrahydrofuran	SC
75-09-2	dichloromethane	L
75-05-8	acetonitrile	CBD, D
123-91-1	1,4-dioxane	L
100-41-4	ethylbenzene	D
108-90-7	chlorobenzene	D
106-42-3	p-xylene	I
95-47-6	o-xylene	I

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

108-38-3	m-xylene	A4
108-88-3	toluene	A4
109-99-9	tetrahydrofuran	A3
75-09-2	dichloromethane	A3
75-05-8	acetonitrile	A4
123-91-1	1,4-dioxane	A3
100-41-4	ethylbenzene	A3
108-90-7	chlorobenzene	A3
106-42-3	p-xylene	A4
95-47-6	o-xylene	A4

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

75-09-2	dichloromethane
123-91-1	1,4-dioxane

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

· **Hazard pictograms**



GHS07

GHS08

· **Signal word** Warning

· **Hazard statements**

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H351 Suspected of causing cancer.

H361 Suspected of damaging fertility or the unborn child.

· **Precautionary statements**

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read label before use.

Wear protective gloves/protective clothing/eye protection/face protection.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If exposed or concerned: Get medical advice/attention.

If skin irritation occurs: Get medical advice/attention.

Store locked up.

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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** 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

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Carc. 2: Carcinogenicity – Category 2

Repr. 2: Reproductive toxicity – Category 2