

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-C2C
- **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. 1B H350 May cause cancer.
Repr. 1A H360 May damage 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** Danger
- **Hazard-determining components of labeling:**
N,N-dimethylacetamide
N,N-dimethylformamide
N-methyl-2-pyrrolidone
formamide

- **Hazard statements**
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H350 May cause cancer.
H360 May damage 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.

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



- **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	98.145%
127-19-5	N,N-dimethylacetamide	0.545%
68-12-2	N,N-dimethylformamide	0.44%
872-50-4	N-methyl-2-pyrrolidone	0.265%
75-12-7	formamide	0.11%

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

107-21-1	ethanediol	0.31%
126-33-0	sulpholane	0.08%
110-80-5	2-ethoxyethanol	0.08%
109-86-4	2-methoxyethanol	0.025%

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 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).
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.

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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
127-19-5	N,N-dimethylacetamide	30 ppm
68-12-2	N,N-dimethylformamide	2 ppm
107-21-1	ethanediol	30 ppm
872-50-4	N-methyl-2-pyrrolidone	30 ppm
75-12-7	formamide	30 ppm
126-33-0	sulpholane	4.1 mg/m ³
110-80-5	2-ethoxyethanol	15 ppm
109-86-4	2-methoxyethanol	0.3 ppm

· PAC-2:

67-68-5	dimethyl sulfoxide	290 ppm
127-19-5	N,N-dimethylacetamide	67 ppm
68-12-2	N,N-dimethylformamide	91 ppm
107-21-1	ethanediol	150 ppm
872-50-4	N-methyl-2-pyrrolidone	32 ppm
75-12-7	formamide	110 ppm
126-33-0	sulpholane	45 mg/m ³
110-80-5	2-ethoxyethanol	1,000 ppm
109-86-4	2-methoxyethanol	14 ppm

· PAC-3:

67-68-5	dimethyl sulfoxide	1,800 ppm
127-19-5	N,N-dimethylacetamide	400 ppm
68-12-2	N,N-dimethylformamide	530 ppm
107-21-1	ethanediol	900 ppm
872-50-4	N-methyl-2-pyrrolidone	190 ppm
75-12-7	formamide	650 ppm
126-33-0	sulpholane	400 mg/m ³
110-80-5	2-ethoxyethanol	6000* ppm
109-86-4	2-methoxyethanol	2000* ppm

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	

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127-19-5 N,N-dimethylacetamide	
PEL	Long-term value: 35 mg/m ³ , 10 ppm Skin
REL	Long-term value: 35 mg/m ³ , 10 ppm Skin
TLV	Long-term value: 36 mg/m ³ , 10 ppm Skin; BEI
68-12-2 N,N-dimethylformamide	
PEL	Long-term value: 30 mg/m ³ , 10 ppm Skin
REL	Long-term value: 30 mg/m ³ , 10 ppm Skin
TLV	Long-term value: 15 mg/m ³ , 5 ppm Skin; BEI
872-50-4 N-methyl-2-pyrrolidone	
WEEL	Long-term value: 10 ppm Skin
75-12-7 formamide	
REL	Long-term value: 15 mg/m ³ , 10 ppm Skin
TLV	Long-term value: 18 mg/m ³ , 10 ppm Skin
Ingredients with biological limit values:	
127-19-5 N,N-dimethylacetamide	
BEI	30 mg/g creatinine Medium: urine Time: end of shift at end of workweek Parameter: N-Methylacetamide
68-12-2 N,N-dimethylformamide	
BEI	15 mg/L Medium: urine Time: end of shift Parameter: N-Methylformamide
	40 mg/L Medium: urine Time: prior to last shift of workweek Parameter: N-Acetyl-S-(N-methylcarbamoyl) cysteine (semi-quantitative)
872-50-4 N-methyl-2-pyrrolidone	
BEI	100 mg/L Medium: urine Time: end of shift Parameter: 5-Hydroxy-N-methyl-2-pyrrolidone

· **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.

· **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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- **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)** 1.09832 g/cm³ (9.16548 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:	98.6 %
VOC content:	98.63 %

- **Solids content:** 0.6 %

- **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.

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- **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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68-12-2 N,N-dimethylformamide

Oral	LD50	2,800 mg/kg (rat)
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Dermal	LD50	4,720 mg/kg (rabbit)
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Inhalative	LC50/4 h	9,400 mg/l (mouse)
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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)**

68-12-2	N,N-dimethylformamide	2A
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- **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **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

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· 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):		
68-12-2	N,N-dimethylformamide	
107-21-1	ethanediol	
872-50-4	N-methyl-2-pyrrolidone	
110-80-5	2-ethoxyethanol	
109-86-4	2-methoxyethanol	
· TSCA (Toxic Substances Control Act):		
All ingredients are listed.		
· Proposition 65		
· Chemicals known to cause cancer:		
68-12-2	N,N-dimethylformamide	
· Chemicals known to cause reproductive toxicity for females:		
None of the ingredients is listed.		
· Chemicals known to cause reproductive toxicity for males:		
127-19-5	N,N-dimethylacetamide	
110-80-5	2-ethoxyethanol	
109-86-4	2-methoxyethanol	
· Chemicals known to cause developmental toxicity:		
127-19-5	N,N-dimethylacetamide	
107-21-1	ethanediol	
872-50-4	N-methyl-2-pyrrolidone	
110-80-5	2-ethoxyethanol	
109-86-4	2-methoxyethanol	
· Carcinogenic categories		
· EPA (Environmental Protection Agency)		
None of the ingredients is listed.		
· TLV (Threshold Limit Value established by ACGIH)		
127-19-5	N,N-dimethylacetamide	A4
68-12-2	N,N-dimethylformamide	A4
107-21-1	ethanediol	A4
· NIOSH-Ca (National Institute for Occupational Safety and Health)		
None of the ingredients is listed.		
· GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).		

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· Hazard pictograms



GHS07

GHS08

· Signal word Danger

· Hazard-determining components of labeling:

N,N-dimethylacetamide
N,N-dimethylformamide
N-methyl-2-pyrrolidone
 formamide

· Hazard statements

H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H350 May cause cancer.
 H360 May damage 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.

· 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. 1B: Carcinogenicity – Category 1B
 Repr. 1A: Reproductive toxicity – Category 1A