

## 1 Identification

- **Product identifier**
- **Product Name:** Stock VOA
- **Part Name:** 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  
732-549-7144  
USMet-CRMSales@antylia.com
- **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

Carcinogenicity 1B H350 May cause cancer.  
Toxic to Reproduction 1B H360 May damage fertility or the unborn child.



GHS07

Skin Irritation 2 H315 Causes skin irritation.  
Eye Irritation 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**  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P264 Wash thoroughly after handling.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P302+P352 If on skin: Wash with plenty of water.  
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308+P313 IF exposed or concerned: Get medical advice/attention.  
P321 Specific treatment (see on this label).  
P362+P364 Take off contaminated clothing and wash it before reuse.  
P332+P313 If skin irritation occurs: Get medical advice/attention.  
P337+P313 If eye irritation persists: Get medical advice/attention.  
P405 Store locked up.

Printing date 06/19/2023

Reviewed on 06/19/2023

Product Name: Stock VOA

(Contd. of page 1)

P501 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

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



Health = \*2  
Fire = 1  
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%
110-80-5	2-ethoxyethanol	0.08%
126-33-0	sulpholane	0.08%
109-86-4	2-methoxyethanol	0.025%

### 4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Immediately rinse with water.
- **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:** 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:** No special measures required.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**
- Dilute with plenty of water.
- 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.

(Contd. on page 3)

Printing date 06/19/2023

Reviewed on 06/19/2023

Product Name: Stock VOA

(Contd. of page 2)

· **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**

· <b>PAC-1:</b>		
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
110-80-5	2-ethoxyethanol	15 ppm
126-33-0	sulpholane	4.1 mg/m <sup>3</sup>
109-86-4	2-methoxyethanol	0.3 ppm
· <b>PAC-2:</b>		
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
110-80-5	2-ethoxyethanol	1,000 ppm
126-33-0	sulpholane	45 mg/m <sup>3</sup>
109-86-4	2-methoxyethanol	14 ppm
· <b>PAC-3:</b>		
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
110-80-5	2-ethoxyethanol	6000* ppm
126-33-0	sulpholane	400 mg/m <sup>3</sup>
109-86-4	2-methoxyethanol	2000* ppm

## 7 Handling and storage

· **Handling:**

· **Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

· **Information about protection against explosions and fires:** Keep respiratory protective device available.

· **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

(Contd. on page 4)

Printing date 06/19/2023

Reviewed on 06/19/2023

Product Name: Stock VOA

(Contd. of page 3)

<b>127-19-5 N,N-dimethylacetamide</b>	
PEL	Long-term value: 35 mg/m <sup>3</sup> , 10 ppm Skin
REL	Long-term value: 35 mg/m <sup>3</sup> , 10 ppm Skin
TLV	Long-term value: 10 ppm Skin; BEI, A3
<b>68-12-2 N,N-dimethylformamide</b>	
PEL	Long-term value: 30 mg/m <sup>3</sup> , 10 ppm Skin
REL	Long-term value: 30 mg/m <sup>3</sup> , 10 ppm Skin
TLV	Long-term value: 5 ppm Skin; BEI, A3
<b>872-50-4 N-methyl-2-pyrrolidone</b>	
TLV	BEI
WEEL	Long-term value: 10 ppm Skin
<b>75-12-7 formamide</b>	
REL	Long-term value: 15 mg/m <sup>3</sup> , 10 ppm Skin
TLV	Long-term value: 1 ppm Skin, A3
<b>Ingredients with biological limit values:</b>	
<b>127-19-5 N,N-dimethylacetamide</b>	
BEI	30 mg/g creatinine Medium: urine Time: end of shift at end of workweek Parameter: N-Methylacetamide
<b>68-12-2 N,N-dimethylformamide</b>	
BEI	30 mg/L Medium: urine Time: end of shift Parameter: Total N-Methylformamide (sum of N-Methylformamide and N-(Hydroxymethyl)-N-Methylformamide)
	30 mg/L Medium: urine Time: end of shift at end of workweek Parameter: N-Acetyl-S-(N-methylcarbamoyl) cysteine
<b>872-50-4 N-methyl-2-pyrrolidone</b>	
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.

Store protective clothing separately.

Avoid contact with the eyes.

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.

(Contd. on page 5)

Printing date 06/19/2023

Reviewed on 06/19/2023

**Product Name: Stock VOA**

(Contd. of page 4)

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)** 1.09832 g/cm<sup>3</sup> (9.16548 lbs/gal)

· **Relative density** Not applicable.

· **Vapor density** Not applicable.

· **Evaporation rate** Not applicable.

· **Solubility in / Miscibility with**

Water:	Fully miscible.
--------	-----------------

· **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.

· **Conditions to avoid** No further relevant information available.

· **Incompatible materials:** No further relevant information available.

(Contd. on page 6)

Printing date 06/19/2023

Reviewed on 06/19/2023

Product Name: Stock VOA

(Contd. of page 5)

· **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)
------	------	--------------------

· **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

Product is suspected to cause damage to fertility.

Product is suspected to cause birth defects.

· **Carcinogenic categories**

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

127-19-5	N,N-dimethylacetamide	2B
----------	-----------------------	----

68-12-2	N,N-dimethylformamide	2A
---------	-----------------------	----

· **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.

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 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

(Contd. on page 7)

US

Printing date 06/19/2023

Reviewed on 06/19/2023

Product Name: Stock VOA

(Contd. of page 6)

· <b>Packing group</b>	
· <b>DOT, ADR, IMDG, IATA</b>	Not Regulated
· <b>Environmental hazards:</b>	Not applicable.
· <b>Special precautions for user</b>	Not applicable.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>UN "Model Regulation":</b>	Not Regulated

## 15 Regulatory information

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

· <b>Section 313 (Specific toxic chemical listings):</b>	
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

· <b>TSCA (Toxic Substances Control Act):</b>	
All components have the value ACTIVE.	

· <b>Hazardous Air Pollutants</b>	
68-12-2	N,N-dimethylformamide
107-21-1	ethanediol

· <b>Proposition 65</b>	
· <b>Chemicals known to cause cancer:</b>	
127-19-5	N,N-dimethylacetamide
68-12-2	N,N-dimethylformamide

· <b>Chemicals known to cause reproductive toxicity for females:</b>	
None of the ingredients is listed.	

· <b>Chemicals known to cause reproductive toxicity for males:</b>	
127-19-5	N,N-dimethylacetamide
110-80-5	2-ethoxyethanol
109-86-4	2-methoxyethanol

· <b>Chemicals known to cause developmental toxicity:</b>	
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

· <b>Carcinogenic categories</b>	
· <b>EPA (Environmental Protection Agency)</b>	
None of the ingredients is listed.	

· TLV (Threshold Limit Value)		
127-19-5	N,N-dimethylacetamide	A4
68-12-2	N,N-dimethylformamide	A4
107-21-1	ethanediol	A4

· <b>NIOSH-Ca (National Institute for Occupational Safety and Health)</b>	
None of the ingredients is listed.	

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

- **Hazard pictograms**



GHS07 GHS08

- **Signal word** Danger

(Contd. on page 8)

Printing date 06/19/2023

Reviewed on 06/19/2023

**Product Name: Stock VOA**

(Contd. of page 7)

· **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**

*P201 Obtain special instructions before use.*  
*P202 Do not handle until all safety precautions have been read and understood.*  
*P264 Wash thoroughly after handling.*  
*P280 Wear protective gloves/protective clothing/eye protection/face protection.*  
*P302+P352 If on skin: Wash with plenty of water.*  
*P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*  
*P308+P313 IF exposed or concerned: Get medical advice/attention.*  
*P321 Specific treatment (see on this label).*  
*P362+P364 Take off contaminated clothing and wash it before reuse.*  
*P332+P313 If skin irritation occurs: Get medical advice/attention.*  
*P337+P313 If eye irritation persists: Get medical advice/attention.*  
*P405 Store locked up.*  
*P501 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** 06/19/2023

· **Abbreviations and acronyms:**

*ADR: Accord relatif au transport international 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*  
*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 Irritation 2: Skin corrosion/irritation – Category 2*  
*Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A*  
*Carcinogenicity 1B: Carcinogenicity – Category 1B*  
*Toxic to Reproduction 1B: Reproductive toxicity – Category 1B*