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1 Identification

· Product identifier

· Product Name: Stock VO

· Part Name: USP-RS-C1

- · 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



GHS02 Flame

Flammable Liquids 2 H225 Highly flammable liquid and vapor.



GHS08 Health hazard

Germ Cell Mutagenicity 1B H340 May cause genetic defects.

H350 May cause cancer. Carcinogenicity 1A

Specific Target Organ Toxicity - Repeated Exposure 1 H372 Causes damage to the central nervous system and the hematopoietic system through prolonged or repeated exposure.



Skin Irrititation 2 H315 Causes skin irritation.

H319 Causes serious eye irritation. Eye Irritation 2A

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







GHS02

GHS07

GHS08

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

1,2-dichloroethane

benzene

carbon tetrachloride

1,1-dichloroethylene

Hazard statements

H225 Highly flammable liquid and vapor.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H340 May cause genetic defects.

H350 May cause cancer.

H372 Causes damage to the central nervous system and the hematopoietic system through prolonged or repeated exposure.

· Precautionary statements

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. P210

P233 Keep container tightly closed.

(Contd. of page 1)



Safety Data Sheet acc. to OSHA HCS

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Product Name: Stock VO

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P242 Use only non-sparking tools.

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.

P403+P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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



Health = 2 Fire = 3Reactivity = 0

· HMIS-ratings (scale 0 - 4)



Health = *2 Fire = 3Reactivity = 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:		
	dimethyl sulfoxide	85.5%
71-55-6	1,1,1-trichloroethane	5.0%
75-35-4	1,1-dichloroethylene	4.0%
	1,2-dichloroethane	2.5%
56-23-5	carbon tetrachloride	2.0%
71-43-2	benzene	1.0%

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.

- · 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.
- $\cdot \textit{After swallowing:} \ \textit{Do not give anything to eat or drink-Do not induce vomitting}$
- · Information for Doctor:
- $\cdot \textit{Most important symptoms and effects, both acute and delayed} \ \textit{No further relevant information available}.$
- 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 During heating or in case of fire poisonous gases are produced.
- · Advice for firefighters
- · Protective equipment: Mouth respiratory protective device.

(Contd. on page 3)

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6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

· 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.

· 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

· 1 Totective	Action Criteria for Chemicais	
· PAC-1:		
67-68-5	dimethyl sulfoxide	150 ppm
71-55-6	1,1,1-trichloroethane	230 ppm
75-35-4	1,1-dichloroethylene	45 ppm
107-06-2	1,2-dichloroethane	50 ppm
56-23-5	carbon tetrachloride	1.2 ppm
71-43-2	benzene	52 ppm
· PAC-2:		·
67-68-5	dimethyl sulfoxide	290 ppm
71-55-6	1,1,1-trichloroethane	600 ppm
75-35-4	1,1-dichloroethylene	500 ppm
107-06-2	1,2-dichloroethane	200 ppm
56-23-5	carbon tetrachloride	13 ppm
71-43-2	benzene	800 ppm
· PAC-3:		
67-68-5	dimethyl sulfoxide	1,800 ppm
71-55-6	1,1,1-trichloroethane	4,200 ppm
75-35-4	1,1-dichloroethylene	1,000 ppm
107-06-2	1,2-dichloroethane	300 ppm
56-23-5	carbon tetrachloride	340 ppm
71-43-2	benzene	4000* 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.

$\cdot \textit{Information about protection against explosions and fires:}$

Keep ignition sources away - Do not smoke.

 $Protect\ against\ electrostatic\ charges.$

Keep respiratory protective device available.

- $\cdot \textit{Conditions for safe storage, including any incompatibilities}$
- · Storage.
- \cdot 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.



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(Contd. of page 3)

· Control parameters

· Components with limit values that require monitoring at the workplace:			
67-68-	67-68-5 dimethyl sulfoxide		
WEEL	WEEL Long-term value: 250 ppm		
71-55-6 1,1,1-trichloroethane			
PEL	Long-term value: 1900 mg/m³, 350 ppm		
REL	Ceiling limit value: 1900* mg/m³, 350* ppm *15-min; See Pocket Guide App. C		
TLV	Short-term value: 450 ppm Long-term value: 350 ppm BEI, A4		
75-35-	4 1,1-dichloroethylene		
REL	See Pocket Guide App.A		
TLV	Long-term value: 5 ppm A4		
107-06	-2 1,2-dichloroethane		
PEL	Long-term value: 50 ppm Ceiling limit value: 100; 200* ppm *5-min peak in any 3 hrs		
REL	Short-term value: 8 mg/m³, 2 ppm Long-term value: 4 mg/m³, 1 ppm See Pocket Guide Apps. A and C		
TLV	Long-term value: 10 ppm A4		
56-23-	5 carbon tetrachloride		
PEL	Long-term value: 10 ppm Ceiling limit value: 25; 200* ppm *5-min peak in any 4 hrs		
REL	Short-term value: 12.6* mg/m³, 2* ppm *60-min;See Pocket Guide App. A		
TLV	Short-term value: 10 ppm Long-term value: 5 ppm Skin, A2		
71-43-	71-43-2 benzene		
PEL	Short-term value: 15* mg/m³, 5* ppm Long-term value: 3* mg/m³, 1* ppm *table Z-2 for exclusions in 29CFR1910.1028(d)		
REL	Short-term value: 1 ppm Long-term value: 0.1 ppm See Pocket Guide App. A		
TLV	Short-term value: (2.5) NIC-0.1 ppm Long-term value: (0.5) NIC-0.02 ppm Skin; BEI, AI		

· Ingredients with biological limit values:

71-55-6 1,1,1-trichloroethane

BEI 20 ppm

Medium: end-exhaled air

Time: prior to shift at end of workweek Parameter: Methyl chloroform

700 μg/L Medium: urine Time: end of shift

Parameter: Methyl chloroform

71-43-2 benzene

BEI 25 μg/g creatinine Medium: urine

Time: end of shift Parameter

Parameter: S-Phenylmercapturic acid (background

500 μg/g creatinine Medium: urine Time: end of shift

Parameter: t,t-Muconic acid (background)

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(Contd. of page 4)

- · 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.

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

Odor: Characteristic
 Odour Threshold: Not applicable.
 pH-value: Not applicable.

· Change in condition

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: 74 °C (165.2 °F)

Flash point: < 23 °C (< 73.4 °F)
 Flammability (solid, gaseous): Highly flammable.

• Ignition temperature: 270 °C (518 °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:
 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) 1.12804 g/cm³ (9.41349 lbs/gal)

Relative density
 Vapor density
 Evaporation rate
 Not applicable.
 Not applicable.

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(Contd. of page 5) · Solubility in / Miscibility with Fully miscible. · Partition coefficient (n-octanol/water): Not applicable. · Viscosity: Not applicable. Dynamic: Kinematic: Not applicable. · Solvent content: 93.5 % Organic solvents: **VOC** content: 88.50 % 0.0 % Solids content:

10 Stability and reactivity

Other information

- · Reactivity No further relevant information available.
- · Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

No further relevant information available.

- · 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)	

- · 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:

Irritani

The product can cause inheritable damage.

· Carcinogenic categories

3		
2B		
2B		
2B		
1		
· NTP (National Toxicology Program)		
R		
R		
K		
· OSHA-Ca (Occupational Safety & Health Administration)		

12 Ecological information

- · Toxicity
- $\cdot \textbf{Aquatic toxicity:} \ No \ further \ relevant \ information \ available.$
- $\cdot \textit{Persistence and degradability} \ \textit{No further relevant information available}.$
- $\cdot \textit{Behavior in environmental systems:}$
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.

(Contd. of page 6)



Safety Data Sheet acc. to OSHA HCS

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Product Name: Stock VO

· 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.

- · 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.

7 4	and the same			n.	
14	Trans	nort	ınt	ormai	tion

· UN-Number · DOT, ADR, IMDG, IATA	UN1993
· UN proper shipping name · DOT · ADR · IMDG, IATA	Flammable liquids, n.o.s. (Vinylidene chloride, stabilized, Ethylene dichloride) 1993 FLAMMABLE LIQUID, N.O.S. (VINYLIDENE CHLORIDE, STABILIZED, ETHYLENE DICHLORIDE) FLAMMABLE LIQUID, N.O.S. (VINYLIDENE CHLORIDE, STABILIZED, ETHYLENE DICHLORIDE)

- · Transport hazard class(es)
- $\cdot DOT$



· Class· Label3 Flammable liquids3

· ADR, IMDG, IATA



· Class
· Label
3 Flammable liquids
3

· Packing group

· DOT, ADR, IMDG, IATA

· Environmental hazards: Not applicable.

· Special precautions for user Warning: Flammable liquids

· Hazard identification number (Kemler code): 33 · EMS Number: F-E,S-E

· Segregation groups (SGG10) Liquid halogenated hydrocarbons

· Stowage Category

· 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

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

(Contd. on page 8)

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(Contd. of page 7)

· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1993 FLAMMABLE LIQUID, N.O.S. (VINYLIDENE CHLORIDE, STABILIZED, ETHYLENE DICHLORIDE), 3, II

15 Regulatory information

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

· Section 313 (Specific toxic chemical listings):			
71-55-6	1,1,1-trichloroethane		
75-35-4	1,1-dichloroethylene		
107-06-2	1,2-dichloroethane		
56-23-5	carbon tetrachloride		
71-43-2	benzene		
· TSCA (Toxic Substances Control Act):			
All components have the value ACTIVE.			
· Hazardou	· Hazardous Air Pollutants		
71-55-6	1,1,1-trichloroethane		
75-35-4	1,1-dichloroethylene		
107-06-2	1,2-dichloroethane		
56-23-5	carbon tetrachloride		

· Proposition 65

71-43-2 benzene

· Chemicals known to cause cancer:		
75-35-4	1,1-dichloroethylene	
107-06-2	1,2-dichloroethane	
56-23-5	carbon tetrachloride	
71-43-2	benzene	

· 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

· Chemicals known to cause developmental toxicity:

71-43-2 benzene

· Carcinogenic categories

· Carcinogenic categories	
· EPA (Environmental Protection Agency)	
71-55-6 1,1,1-trichloroethane	II
75-35-4 1,1-dichloroethylene	C, S (inh.), I (oral)
107-06-2 1,2-dichloroethane	B2
56-23-5 carbon tetrachloride	L
71-43-2 benzene	A, K/L
· TLV (Threshold Limit Value)	
71-55-6 1,1,1-trichloroethane	A4
75-35-4 1,1-dichloroethylene	A4
107-06-2 1,2-dichloroethane	A4
56-23-5 carbon tetrachloride	A2
71-43-2 benzene	AI
· NIOSH-Ca (National Institute for Occupational Safety and Health)	
75-35-4 1,1-dichloroethylene	
107-06-2 1,2-dichloroethane	
56-23-5 carbon tetrachloride	
71-43-2 benzene	

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

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Product Name: Stock VO

· Hazard pictograms







GHS02

GHS07

· Signal word Danger

· Hazard-determining components of labeling:

1,2-dichloroethane

benzene

carbon tetrachloride

1.1-dichloroethylene

Hazard statements

H225 Highly flammable liquid and vapor.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H340 May cause genetic defects.

H350 May cause cancer.

H372 Causes damage to the central nervous system and the hematopoietic system through prolonged or repeated exposure.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P242 Use only non-sparking tools.

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

Wear protective gloves/protective clothing/eye protection/face protection. P280

P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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. P332+P313 If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. P337+P313

P403+P235 Store in a well-ventilated place. Keep cool.

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 10/13/2022 / -

· 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

Flammable Liquids 2: Flammable liquids – Category 2

Skin Irrititation 2: Skin corrosion/irritation - Category 2

(Contd. on page 10)



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Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A
Germ Cell Mutagenicity 1B: Germ cell mutagenicity – Category 1B
Carcinogenicity 1A: Carcinogenicity – Category 1A
Specific Target Organ Toxicity - Repeated Exposure 1: Specific target organ toxicity (repeated exposure) – Category 1

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