Safety Data Sheet
acc. to OSHA HCS

Printing date 02/24/2023 *Reviewed on 02/24/2023*

1 Identification

· **Product identifier**

· **Product Name: Method 524.2 Revision 4 Mix (High Level)**

· **Part Name:** 5242-R4
· **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.

GHS06 Skull and crossbones

Acute Toxicity - Inhalation 3	H331 Toxic if inhaled.

GHS08 Health hazard

Carcinogenicity 2	H351 Suspected of causing cancer.
Toxic to Reproduction 1B	H360 May damage fertility or the unborn child.
Specific Target Organ Toxicity - Single Exposure 1	H370 Causes damage to the central nervous system and the visual organs.
Specific Target Organ Toxicity - Repeated Exposure 2	H373 May cause damage to the central nervous system, the kidneys and the cardiovascular system through prolonged or repeated exposure.

GHS07

Sensitization - Skin 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
nitrobenzene
acrylonitrile
methacrylonitrile
methyl methacrylate
methyl acrylate
ethyl methacrylate

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· **Hazard statements**
H225 Highly flammable liquid and vapor.
H331 Toxic if inhaled.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H360 May damage fertility or the unborn child.
H370 Causes damage to the central nervous system and the visual organs.
H373 May cause damage to the central nervous system, the kidneys and the cardiovascular system through prolonged or repeated exposure.
· **Precautionary statements**

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
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.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P321	Specific treatment (see on this label).
P363	Wash contaminated clothing before reuse.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
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 = 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	95.2%
67-72-1	hexachloroethane	0.2%
74-88-4	iodomethane	0.2%
75-15-0	carbon disulphide	0.2%
76-01-7	pentachloroethane	0.2%
79-46-9	2-nitropropane	0.2%
80-62-6	methyl methacrylate	0.2%
96-33-3	methyl acrylate	0.2%
97-63-2	ethyl methacrylate	0.2%
98-95-3	nitrobenzene	0.2%
107-05-1	3-chloropropene	0.2%
107-12-0	propanenitrile	0.2%
107-13-1	acrylonitrile	0.2%
107-14-2	chloroacetonitrile	0.2%
108-10-1	4-methylpentan-2-one	0.2%
109-99-9	tetrahydrofuran	0.2%
126-98-7	methacrylonitrile	0.2%
513-88-2	1,1-dichloroacetone	0.2%

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591-78-6	hexan-2-one	0.2%
1634-04-4	Methyl-tert-butyl ether	0.2%

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

60-29-7	diethyl ether	0.2%
67-64-1	acetone	0.2%
78-93-3	butanone	0.2%
109-69-3	1-chlorobutane	0.2%
110-57-6	(2E)-1,4-dichloro-2-butene	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 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, 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.

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**

· **PAC-1:**

67-56-1	methanol	530 ppm
60-29-7	diethyl ether	500 ppm
67-64-1	acetone	200 ppm
67-72-1	hexachloroethane	3 ppm
74-88-4	iodomethane	25 ppm
75-15-0	carbon disulphide	13 ppm
76-01-7	pentachloroethane	130 mg/m³
78-93-3	butanone	200 ppm
79-46-9	2-nitropropane	30 ppm
80-62-6	methyl methacrylate	17 ppm
96-33-3	methyl acrylate	6 ppm

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97-63-2	ethyl methacrylate	5.5 ppm
98-95-3	nitrobenzene	3 ppm
107-05-1	3-chloropropene	2.8 ppm
107-12-0	propanenitrile	0.27 ppm
107-13-1	acrylonitrile	0.15 ppm
107-14-2	chloroacetonitrile	0.45 ppm
108-10-1	4-methylpentan-2-one	75 ppm
109-69-3	1-chlorobutane	4.1 ppm
109-99-9	tetrahydrofuran	100 ppm
110-57-6	(2E)-1,4-dichloro-2-butene	0.078 ppm
126-98-7	methacrylonitrile	0.091 ppm
591-78-6	hexan-2-one	10 ppm
1634-04-4	Methyl-tert-butyl ether	50 ppm

· **PAC-2:**

67-56-1	methanol	2,100 ppm
60-29-7	diethyl ether	3200* ppm
67-64-1	acetone	3200* ppm
67-72-1	hexachloroethane	36 ppm
74-88-4	iodomethane	50 ppm
75-15-0	carbon disulphide	160 ppm
76-01-7	pentachloroethane	730 mg/m³
78-93-3	butanone	2700* ppm
79-46-9	2-nitropropane	380 ppm
80-62-6	methyl methacrylate	120 ppm
96-33-3	methyl acrylate	170 ppm
97-63-2	ethyl methacrylate	61 ppm
98-95-3	nitrobenzene	20 ppm
107-05-1	3-chloropropene	54 ppm
107-12-0	propanenitrile	3.0 ppm
107-13-1	acrylonitrile	1.7 ppm
107-14-2	chloroacetonitrile	5.0 ppm
108-10-1	4-methylpentan-2-one	500 ppm
109-69-3	1-chlorobutane	45 ppm
109-99-9	tetrahydrofuran	500 ppm
110-57-6	(2E)-1,4-dichloro-2-butene	0.86 ppm
126-98-7	methacrylonitrile	1.0 ppm
591-78-6	hexan-2-one	830 ppm
1634-04-4	Methyl-tert-butyl ether	570 ppm

· **PAC-3:**

67-56-1	methanol	7200* ppm
60-29-7	diethyl ether	19000*** ppm
67-64-1	acetone	5700* ppm
67-72-1	hexachloroethane	300 ppm
74-88-4	iodomethane	125 ppm
75-15-0	carbon disulphide	480 ppm
76-01-7	pentachloroethane	1,200 mg/m³
78-93-3	butanone	4000* ppm
79-46-9	2-nitropropane	2,300 ppm
80-62-6	methyl methacrylate	570 ppm
96-33-3	methyl acrylate	1,000 ppm
97-63-2	ethyl methacrylate	370 ppm
98-95-3	nitrobenzene	200 ppm
107-05-1	3-chloropropene	140 ppm
107-12-0	propanenitrile	9.1 ppm
107-13-1	acrylonitrile	28 ppm
107-14-2	chloroacetonitrile	15 ppm

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108-10-1	4-methylpentan-2-one	3000* ppm
109-69-3	1-chlorobutane	340 ppm
109-99-9	tetrahydrofuran	5000* ppm
110-57-6	(2E)-1,4-dichloro-2-butene	3.8 ppm
126-98-7	methacrylonitrile	3.1 ppm
591-78-6	hexan-2-one	5000* ppm
1634-04-4	Methyl-tert-butyl ether	5300* 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 Long-term value: 260 mg/m³, 200 ppm Skin
TLV	Short-term value: 250 ppm Long-term value: 200 ppm Skin; BEI

67-72-1 hexachloroethane	
PEL	Long-term value: 10 mg/m³, 1 ppm Skin
REL	Long-term value: 10 mg/m³, 1 ppm Skin; See Pocket Guide Apps. A and C
TLV	Long-term value: 1 ppm Skin, A3

74-88-4 iodomethane	
PEL	Long-term value: 28 mg/m³, 5 ppm Skin
REL	Long-term value: 10 mg/m³, 2 ppm Skin; See Pocket Guide App. A
TLV	Long-term value: 2 ppm Skin

75-15-0 carbon disulphide	
PEL	Long-term value: 20 ppm Ceiling limit value: 30; 100* ppm *30-min peak per 8-hr shift
REL	Short-term value: 30 mg/m³, 10 ppm Long-term value: 3 mg/m³, 1 ppm Skin

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TLV	Long-term value: 1 ppm Skin, BEI, A4
76-01-7 pentachloroethane	
REL	Handle with caution; See Pocket Guide App. C
79-46-9 2-nitropropane	
PEL	Long-term value: 90 mg/m³, 25 ppm
REL	See Pocket Guide App. A
TLV	Long-term value: 10 ppm A3
80-62-6 methyl methacrylate	
PEL	Long-term value: 410 mg/m³, 100 ppm
REL	Long-term value: 410 mg/m³, 100 ppm
TLV	Short-term value: 100 ppm Long-term value: 50 ppm DSEN, A4
96-33-3 methyl acrylate	
PEL	Long-term value: 35 mg/m³, 10 ppm Skin
REL	Long-term value: 35 mg/m³, 10 ppm Skin
TLV	Long-term value: 2 ppm Skin; DSEN, A4
98-95-3 nitrobenzene	
PEL	Long-term value: 5 mg/m³, 1 ppm Skin
REL	Long-term value: 5 mg/m³, 1 ppm Skin
TLV	Long-term value: 1 ppm Skin; BEIm, A3
107-05-1 3-chloropropene	
PEL	Long-term value: 3 mg/m³, 1 ppm
REL	Short-term value: 6 mg/m³, 2 ppm Long-term value: 3 mg/m³, 1 ppm
TLV	Short-term value: 2 ppm Long-term value: 1 ppm Skin, A3
107-12-0 propanenitrile	
PEL	Long-term value: 5 mg/m³ as CN; Skin
REL	Long-term value: 14 mg/m³, 6 ppm
107-13-1 acrylonitrile	
PEL	Long-term value: 2 ppm Ceiling limit value: 10* ppm *15 Min., Skin; see 29 CRF 1910.1045
REL	Long-term value: 1 ppm Ceiling limit value: 10* ppm *15-min; Skin; See Pocket Guide App. A
TLV	Long-term value: 2 ppm Skin, A3
108-10-1 4-methylpentan-2-one	
PEL	Long-term value: 410 mg/m³, 100 ppm
REL	Short-term value: 300 mg/m³, 75 ppm Long-term value: 205 mg/m³, 50 ppm
TLV	Short-term value: 75 ppm Long-term value: 20 ppm BEI, A3
109-99-9 tetrahydrofuran	
PEL	Long-term value: 590 mg/m³, 200 ppm

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REL	Short-term value: 735 mg/m³, 250 ppm Long-term value: 590 mg/m³, 200 ppm
TLV	Short-term value: 100 ppm Long-term value: 50 ppm Skin, A3, BEI
126-98-7 methacrylonitrile	
REL	Long-term value: 3 mg/m³, 1 ppm Skin
TLV	Long-term value: 1 ppm Skin, A4
591-78-6 hexan-2-one	
PEL	Long-term value: 410 mg/m³, 100 ppm
REL	Long-term value: 4 mg/m³, 1 ppm
TLV	Short-term value: 10 ppm Long-term value: 5 ppm Skin
1634-04-4 Methyl-tert-butyl ether	
TLV	Long-term value: 50 ppm A3

· **Ingredients with biological limit values:**

67-56-1 methanol	
BEI	15 mg/L Medium: urine Time: end of shift Parameter: Methanol (background, nonspecific)
75-15-0 carbon disulphide	
BEI	0.5 mg/g creatinine Medium: urine Time: end of shift Parameter: 2-Thioxothiazolidine-4-carboxylic acid (background, nonspecific)
98-95-3 nitrobenzene	
BEI	5 % of hemoglobin Medium: blood Time: during or end of shift Parameter: Methemoglobin (background, nonspecific,)
108-10-1 4-methylpentan-2-one	
BEI	1 mg/L Medium: urine Time: end of shift Parameter: MIBK
109-99-9 tetrahydrofuran	
BEI	2 mg/L Medium: urine Time: end of shift Parameter: Tetrahydrofuran
591-78-6 hexan-2-one	
BEI	0.4 mg/L Medium: urine Time: end of shift at end of workweek Parameter: 2.5-Hexanedione without hydrolysis

· **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.
· **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:	64.7 °C (148.5 °F)
· **Flash point:**	< 23 °C (< 73.4 °F)
· **Flammability (solid, gaseous):**	Highly flammable.
· **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 at 20 °C (68 °F)**	0.80362-0.80363 g/cm³ (6.70621-6.70629 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:	96.8 %
VOC content:	96.60 %
Solids content:	0.2 %

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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:**

67-56-1 methanol

Oral	LD50	5,628 mg/kg (rat)
Dermal	LD50	15,800 mg/kg (rabbit)

· **Primary irritant effect:**
· **on the eye:** No irritating effect.
· **Sensitization:** Sensitization possible through skin contact.
· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Toxic
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)**

67-72-1	hexachloroethane	2B
74-88-4	iodomethane	3
76-01-7	pentachloroethane	3
79-46-9	2-nitropropane	2B
80-62-6	methyl methacrylate	3
96-33-3	methyl acrylate	2B
98-95-3	nitrobenzene	2B
107-05-1	3-chloropropene	3
107-13-1	acrylonitrile	2B
107-14-2	chloroacetonitrile	3
108-10-1	4-methylpentan-2-one	2B
109-99-9	tetrahydrofuran	2B
110-57-6	(2E)-1,4-dichloro-2-butene	3
1634-04-4	Methyl-tert-butyl ether	3

· **NTP (National Toxicology Program)**

67-72-1	hexachloroethane	R
79-46-9	2-nitropropane	R
98-95-3	nitrobenzene	R
107-13-1	acrylonitrile	R

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

107-13-1	acrylonitrile

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.

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· **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.

14 Transport information

· **UN-Number**	
· **DOT, ADR, IMDG, IATA**	UN1230
· **UN proper shipping name**	
· **DOT**	Methanol
· **ADR**	1230 METHANOL
· **IMDG, IATA**	METHANOL
· **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

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· **Hazard identification number (Kemler code):**	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 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· **IMDG**	
· **Limited quantities (LQ)**	1L
· **Excepted quantities (EQ)**	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· **UN "Model Regulation":**	UN 1230 METHANOL, 3 (6.1), II

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture** No further relevant information available.
· **Sara**

· **Section 313 (Specific toxic chemical listings):**	
67-56-1	methanol
67-72-1	hexachloroethane
74-88-4	iodomethane
75-15-0	carbon disulphide
76-01-7	pentachloroethane
79-46-9	2-nitropropane
80-62-6	methyl methacrylate
96-33-3	methyl acrylate
98-95-3	nitrobenzene
107-05-1	3-chloropropene
107-13-1	acrylonitrile
108-10-1	4-methylpentan-2-one
110-57-6	(2E)-1,4-dichloro-2-butene
126-98-7	methacrylonitrile
1634-04-4	Methyl-tert-butyl ether

· **TSCA (Toxic Substances Control Act):**		
67-56-1	methanol	ACTIVE
60-29-7	diethyl ether	ACTIVE
67-64-1	acetone	ACTIVE
67-72-1	hexachloroethane	ACTIVE
74-88-4	iodomethane	ACTIVE
75-15-0	carbon disulphide	ACTIVE
76-01-7	pentachloroethane	ACTIVE
78-93-3	butanone	ACTIVE
79-46-9	2-nitropropane	ACTIVE
80-62-6	methyl methacrylate	ACTIVE
96-33-3	methyl acrylate	ACTIVE
97-63-2	ethyl methacrylate	ACTIVE
98-95-3	nitrobenzene	ACTIVE
107-05-1	3-chloropropene	ACTIVE
107-12-0	propanenitrile	ACTIVE
107-13-1	acrylonitrile	ACTIVE
107-14-2	chloroacetonitrile	ACTIVE
108-10-1	4-methylpentan-2-one	ACTIVE
109-69-3	1-chlorobutane	ACTIVE

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109-99-9	tetrahydrofuran	ACTIVE
110-57-6	(2E)-1,4-dichloro-2-butene	ACTIVE
126-98-7	methacrylonitrile	ACTIVE
591-78-6	hexan-2-one	ACTIVE
1634-04-4	Methyl-tert-butyl ether	ACTIVE

· **Hazardous Air Pollutants**

67-56-1	methanol
67-72-1	hexachloroethane
74-88-4	iodomethane
75-15-0	carbon disulphide
79-46-9	2-nitropropane
80-62-6	methyl methacrylate
98-95-3	nitrobenzene
107-05-1	3-chloropropene
107-13-1	acrylonitrile
108-10-1	4-methylpentan-2-one
1634-04-4	Methyl-tert-butyl ether

· **Proposition 65**

· **Chemicals known to cause cancer:**

67-72-1	hexachloroethane
74-88-4	iodomethane
79-46-9	2-nitropropane
96-33-3	methyl acrylate
98-95-3	nitrobenzene
107-13-1	acrylonitrile
108-10-1	4-methylpentan-2-one
109-99-9	tetrahydrofuran

· **Chemicals known to cause reproductive toxicity for females:**

75-15-0	carbon disulphide

· **Chemicals known to cause reproductive toxicity for males:**

75-15-0	carbon disulphide
98-95-3	nitrobenzene
591-78-6	hexan-2-one

· **Chemicals known to cause developmental toxicity:**

67-56-1	methanol
75-15-0	carbon disulphide
108-10-1	4-methylpentan-2-one
591-78-6	hexan-2-one

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

67-64-1	acetone	I
67-72-1	hexachloroethane	L
78-93-3	butanone	I
80-62-6	methyl methacrylate	E, NL
96-33-3	methyl acrylate	D
98-95-3	nitrobenzene	L
107-05-1	3-chloropropene	C
107-13-1	acrylonitrile	B1
108-10-1	4-methylpentan-2-one	I
109-69-3	1-chlorobutane	D
109-99-9	tetrahydrofuran	SC
591-78-6	hexan-2-one	II

· **TLV (Threshold Limit Value)**

67-64-1	acetone	A4
67-72-1	hexachloroethane	A3
75-15-0	carbon disulphide	A4

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79-46-9	2-nitropropane	A3
80-62-6	methyl methacrylate	A4
96-33-3	methyl acrylate	A4
98-95-3	nitrobenzene	A3
107-05-1	3-chloropropene	A3
107-13-1	acrylonitrile	A3
109-99-9	tetrahydrofuran	A3
1634-04-4	Methyl-tert-butyl ether	A3

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**	
67-72-1	hexachloroethane
74-88-4	iodomethane
79-46-9	2-nitropropane
107-13-1	acrylonitrile

· **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
nitrobenzene
acrylonitrile
methacrylonitrile
methyl methacrylate
methyl acrylate
ethyl methacrylate
· **Hazard statements**
H225 Highly flammable liquid and vapor.
H331 Toxic if inhaled.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H360 May damage fertility or the unborn child.
H370 Causes damage to the central nervous system and the visual organs.
H373 May cause damage to the central nervous system, the kidneys and the cardiovascular system through prolonged or repeated exposure.
· **Precautionary statements**

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
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.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P321	Specific treatment (see on this label).
P363	Wash contaminated clothing before reuse.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
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.

· **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** 02/24/2023

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US

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· **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
Acute Toxicity - Inhalation 3: Acute toxicity – Category 3
Sensitization - Skin 1: Skin sensitisation – Category 1
Carcinogenicity 2: Carcinogenicity – Category 2
Toxic to Reproduction 1B: Reproductive toxicity – Category 1B
Specific Target Organ Toxicity - Single Exposure 1: Specific target organ toxicity (single exposure) – Category 1
Specific Target Organ Toxicity - Repeated Exposure 2: Specific target organ toxicity (repeated exposure) – Category 2