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1 Identification

- · Product identifier
- · Product Name: REV 4.0 Add-Ons
- · Part Number: ECS-B-046XP
- · Application of the substance / the mixture For Laboratory Use Only
- · Uses advised against Not for Human or Animal Use
- · 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 1 H372-H373 Causes damage to the blood through prolonged or repeated exposure. May cause damage to the central nervous system, the kidneys and the cardiovascular system through prolonged or

repeated exposure.



GHS07

Acute Toxicity - Oral 4H302Harmful if swallowed.Acute Toxicity - Dermal 4H312Harmful in contact with skin.Sensitization - Skin 1H317May 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







GHS07



· Signal word Danger

· Hazard-determining components of labeling:

methanol nitrobenzene methacrylonitrile

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chloroacetonitrile methyl methacrylate acrylonitrile methyl acrylate ethyl methacrylate

· Hazard statements

H225 Highly flammable liquid and vapor.

H302+H312 Harmful if swallowed or in contact with skin.

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.

Н372-Н373 Causes damage to the blood through prolonged or repeated exposure. May cause damage to the central nervous system, the kidneys and the cardiovascular system through prolonged or repeated exposure.

· Precautionary statements

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

P240 Ground/bond container and receiving equipment.

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

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

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

P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.

P330 Rinse mouth.

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.

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 = 1Fire = 3Reactivity = 0

· HMIS-ratings (scale 0 - 4)



Health = *1Fire = 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.

| 67-56-1 methanol 87.0% 107-14-2 chloroacetonitrile 4.0% 98-95-3 nitrobenzene 2.0% 107-12-0 propanenitrile 2.0% 78-99-9 1,1-Dichloropropane 1.0% 79-46-9 2-nitropropane 0.4% 80-62-6 methyl methacrylate 0.4% 107-13-1 acrylonitrile 0.4% 109-99-9 tetrahydrofuran 0.4% 67-72-1 hexachloroethane 0.2% 74-88-4 iodomethane 0.2% 75-15-0 carbon disulphide 0.2% | 0 | Dangerous components: | | |
|--|----------|-----------------------|-------|--|
| 98-95-3 nitrobenzene 2.0% 107-12-0 propanenitrile 2.0% 78-99-9 1,1-Dichloropropane 1.0% 79-46-9 2-nitropropane 0.4% 80-62-6 methyl methacrylate 0.4% 107-13-1 acrylonitrile 0.4% 109-99-9 tetrahydrofuran 0.4% 67-72-1 hexachloroethane 0.2% 74-88-4 iodomethane 0.2% 75-15-0 carbon disulphide 0.2% | 67-56-1 | methanol | 87.0% | |
| 107-12-0 propanenitrile 2.0% 78-99-9 1,1-Dichloropropane 1.0% 79-46-9 2-nitropropane 0.4% 80-62-6 methyl methacrylate 0.4% 107-13-1 acrylonitrile 0.4% 109-99-9 tetrahydrofuran 0.4% 67-72-1 hexachloroethane 0.2% 74-88-4 iodomethane 0.2% 75-15-0 carbon disulphide 0.2% | 107-14-2 | chloroacetonitrile | 4.0% | |
| 78-99-9 1,1-Dichloropropane 1.0% 79-46-9 2-nitropropane 0.4% 80-62-6 methyl methacrylate 0.4% 107-13-1 acrylonitrile 0.4% 109-99-9 tetrahydrofuran 0.4% 67-72-1 hexachloroethane 0.2% 74-88-4 iodomethane 0.2% 75-15-0 carbon disulphide 0.2% | | | 2.0% | |
| 79-46-9 2-nitropropane 0.4% 80-62-6 methyl methacrylate 0.4% 107-13-1 acrylonitrile 0.4% 109-99-9 tetrahydrofuran 0.4% 67-72-1 hexachloroethane 0.2% 74-88-4 iodomethane 0.2% 75-15-0 carbon disulphide 0.2% | | | 2.0% | |
| 80-62-6 methyl methacrylate 0.4% 107-13-1 acrylonitrile 0.4% 109-99-9 tetrahydrofuran 0.4% 67-72-1 hexachloroethane 0.2% 74-88-4 iodomethane 0.2% 75-15-0 carbon disulphide 0.2% | | | 1.0% | |
| 107-13-1 acrylonitrile 0.4% 109-99-9 tetrahydrofuran 0.4% 67-72-1 hexachloroethane 0.2% 74-88-4 iodomethane 0.2% 75-15-0 carbon disulphide 0.2% | 79-46-9 | 2-nitropropane | 0.4% | |
| 109-99-9 tetrahydrofuran 0.4% 67-72-1 hexachloroethane 0.2% 74-88-4 iodomethane 0.2% 75-15-0 carbon disulphide 0.2% | 80-62-6 | methyl methacrylate | 0.4% | |
| 67-72-1 hexachloroethane 0.2% 74-88-4 iodomethane 0.2% 75-15-0 carbon disulphide 0.2% | | | 0.4% | |
| 74-88-4 iodomethane 0.2% 75-15-0 carbon disulphide 0.2% | 109-99-9 | tetrahydrofuran | 0.4% | |
| 75-15-0 carbon disulphide 0.2% | 67-72-1 | hexachloroethane | 0.2% | |
| | 74-88-4 | iodomethane | 0.2% | |
| | 75-15-0 | * | 0.2% | |



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| | | (Contd. of page 2) |
|----------|--|--------------------|
| 96-33-3 | methyl acrylate | 0.2% |
| 97-63-2 | ethyl methacrylate | 0.2% |
| 1 | 3-chloropropene | 0.2% |
| 1 | methacrylonitrile | 0.2% |
| | Methyl-tert-butyl ether | 0.2% |
| | dentification of the substance/preparation | |
| | 2E)-1,4-dichloro-2-butene | 0.4% |
| 60-29-7 | liethyl ether | 0.2% |
| 109-69-3 | 1-chlorobutane | 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:

Immediately call a doctor.

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 section 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: | PAC-1: | | |
|----------|---------------------|----------|--|
| | methanol | 530 ppm | |
| 107-14-2 | chloroacetonitrile | 0.45 ppm | |
| | nitrobenzene | 3 ррт | |
| | | 0.27 ppm | |
| | 1,1-Dichloropropane | 2.6 ppm | |
| | 2-nitropropane | 30 ppm | |
| 80-62-6 | methyl methacrylate | 17 ppm | |
| 107-13-1 | acrylonitrile | 0.15 ppm | |

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| 100.00.0 | | Contd. of page 3 |
|-----------|---|----------------------|
| | tetrahydrofuran | 100 ppm |
| | (2E)-1,4-dichloro-2-butene | 0.078 ppm |
| | diethyl ether | 500 ppm |
| | hexachloroethane | 3 ppm |
| | iodomethane | 25 ppm |
| | carbon disulphide | 13 ppm |
| | methyl acrylate | 6 ppm |
| | ethyl methacrylate | 5.5 ppm |
| | 3-chloropropene I-chlorobutane | 2.8 ppm |
| | nethacrylonitrile | 4.1 ppm 0.091 ppn |
| | methacrytontirue Methyl-tert-butyl ether | |
| | Metnyi-tert-dutyi etner | 50 ppm |
| · PAC-2: | | |
| | methanol | 2,100 ppm |
| | chloroacetonitrile | 5.0 ppm |
| | nitrobenzene | 20 ppm |
| | propanenitrile | 3.0 ppm |
| | 1,1-Dichloropropane | 29 ppm |
| | 2-nitropropane | 380 ppm |
| | methyl methacrylate | 120 ppm |
| | acrylonitrile | 1.7 ppm |
| | tetrahydrofuran | 500 ppm |
| | (2E)-1,4-dichloro-2-butene | 0.86 ppm |
| | diethyl ether | 3200* ppn |
| | hexachloroethane | 36 ppm |
| | iodomethane | 50 ppm |
| | carbon disulphide | 160 ppm |
| | methyl acrylate | 170 ppm |
| | ethyl methacrylate | 61 ppm |
| | 3-chloropropene | 54 ppm |
| | 1-chlorobutane | 45 ppm |
| | methacrylonitrile | 1.0 ppm |
| 1634-04-4 | Methyl-tert-butyl ether | 570 ppm |
| · PAC-3: | | |
| 67-56-1 | methanol | 7200* ppm |
| 107-14-2 | chloroacetonitrile | 15 ppm |
| 98-95-3 | nitrobenzene | 200 ppm |
| 107-12-0 | propanenitrile | 9.1 ppm |
| | 1,1-Dichloropropane | 170 ppm |
| 79-46-9 | 2-nitropropane | 2,300 ppm |
| | methyl methacrylate | 570 ppm |
| 107-13-1 | acrylonitrile | 28 ppm |
| | tetrahydrofuran | 5000* ppm |
| | (2E)-1,4-dichloro-2-butene | 3.8 ppm |
| | diethyl ether | 19000*** ppn |
| | hexachloroethane | 300 ppm |
| | iodomethane | 125 ppm |
| | carbon disulphide | 480 ppm |
| | methyl acrylate | 1,000 ppm |
| | ethyl methacrylate | 370 ppm |
| | 3-chloropropene | 140 ppm |
| | 1-chlorobutane | 340 ppm |
| | methacrylonitrile | 3.1 ppm |
| | Methyl-tert-butyl ether | 5300* ppm |
| 100.014 | · | Contd. on page |

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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 section 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.

*15-min; Skin; See Pocket Guide App. A

| At th | is time, the other constituents have no known exposure limits. | | |
|-------|--|--|--|
| 67-5 | 6-1 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 | | |
| 98-9. | 5-3 nitrobenzene | | |
| PEL | Long-term value: 5 mg/m³, 1 ppm Skin | | |
| REL | Long-term value: 5 mg/m³, 1 ppm Skin | | |
| | Long-term value: 1 ppm Skin; BEIm, A3 | | |
| 107- | 12-0 propanenitrile | | |
| PEL | Long-term value: 5 mg/m³ as CN; Skin | | |
| REL | Long-term value: 14 mg/m³, 6 ppm | | |
| 79-4 | 6-9 2-nitropropane | | |
| PEL | Long-term value: 90 mg/m³, 25 ppm | | |
| REL | See Pocket Guide App. A | | |
| TLV | Long-term value: 10 ppm A3 | | |
| 80-6 | 2-6 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 | | |
| 107- | 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 | | |

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| | | (Contd. of page |
|-------|---|-----------------|
| TLV | Long-term value: 2 ppm Skin, A3 | |
| 109- | 99-9 tetrahydrofuran | |
| PEL | Long-term value: 590 mg/m³, 200 ppm | |
| 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 | |
| 67-72 | ¹ 2-1 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 | 8-4 iodomethane | |
| PEL | Long-term value: 28 mg/m³, 5 ppm Skin | |
| | Long-term value: 10 mg/m³, 2 ppm Skin; See Pocket Guide App. A | |
| TLV | Long-term value: 2 ppm Skin | |
| 75-13 | 5-0 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 | |
| TLV | Long-term value: 1 ppm Skin, BEI, A4 | |
| 96-3. | 3-3 methyl acrylate | |
| | Long-term value: 35 mg/m³, 10 ppm Skin | |
| REL | Long-term value: 35 mg/m³, 10 ppm Skin | |
| | Long-term value: 2 ppm Skin; DSEN, A4 | |
| 107-0 | 05-1 3-chloropropene | |
| | Long-term value: 3 mg/m³, 1 ppm | |
| | 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 | |
| | 98-7 methacrylonitrile | |
| | Long-term value: 3 mg/m³, 1 ppm Skin | |
| | Long-term value: 1 ppm Skin, A4 | |
| | 4-04-4 Methyl-tert-butyl ether | |
| TLV | Long-term value: 50 ppm A3 | |
| Ingre | redients with biological limit values: | |
| 67-5 | 6-1 methanol | |
| | 15 mg/L Medium: urine | |
| | Time: end of shift Parameter: Mathanol (background, ponspecific) | |
| | Parameter: Methanol (background, nonspecific) | (Contd. on pag |

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98-95-3 nitrobenzene

BEI 5 % of hemoglobin

Medium: blood

Time: during or end of shift

Parameter: Methemoglobin (background, nonspecific,)

109-99-9 tetrahydrofuran

BEI 2 mg/L

Medium: urine

Time: end of shift

Parameter: Tetrahydrofuran

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)

- · 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 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
 · Odour Threshold: Not applicable.
 · pH-value: Not applicable.

· Change in condition

Melting point/Melting range:Undetermined.Boiling point/Boiling range: $64.7 \, ^{\circ}C \, (148.5 \, ^{\circ}F)$ Flash point: $< 23 \, ^{\circ}C \, (< 73.4 \, ^{\circ}F)$

· Flammability (solid, gaseous): Highly flammable. · Auto igniting: 455 °C (851 °F)

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| - Decomposition temperature: Not applicable. - Ignition temperature: 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 Not applicable Relative density Not applicable Vapor density 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: 88.4 % VOC content: 88.40 % Solids content: 0.2 % | | (Contd. or page / |
|---|---|--|
| - Danger of explosion: - Explosion limits: - Lower: - Lower: - Lower: - Upper: - 44 Vol % - Vapor pressure at 20 °C (68 °F): - 128 hPa (96 mm Hg) - Density - Not applicable Relative density - Not applicable Evaporation rate - Not applicable Solubility in / Miscibility with - Water: - Fully miscible. - Partition coefficient (n-octanol/water): Not applicable Viscosity: - Dynamic: - Kinematic: - Not applicable Solvent content: - Organic solvents: - 88.4 % - VOC content: - 88.4 % - VOC cont | · Decomposition temperature: | Not applicable. |
| - Explosion limits: Lower: 5.5 Vol % Upper: 44 Vol % - Vapor pressure at 20 °C (68 °F): 128 hPa (96 mm Hg) - Density Not applicable 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: | · Ignition temperature: | Product is not selfigniting. |
| Lower: Upper: 44 Vol % Vapor pressure at 20 °C (68 °F): 128 hPa (96 mm Hg) Density Not applicable. 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: Kinematic: Not applicable. Solvent content: Organic solvents: 88.4 % VOC content: 88.40 % | · Danger of explosion: | Product is not explosive. However, formation of explosive air/vapor mixtures are possible. |
| Upper: 44 Vol % - Vapor pressure at 20 °C (68 °F): 128 hPa (96 mm Hg) - Density Not applicable 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: 88.4 % - VOC content: 88.40 % | · Explosion limits: | |
| Vapor pressure at 20 °C (68 °F): 128 hPa (96 mm Hg) Density Not applicable. 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: 88.4 % VOC content: 88.40 % | Lower: | 5.5 Vol % |
| Density Not applicable. Relative density Not applicable. Vapor density Not applicable. Solubility in / Miscibility with Water: Fully miscible. Partition coefficient (n-octanol/water): Not applicable. Viscosity: Dynamic: Kinematic: Not applicable. Solvent content: Organic solvents: 88.4 % VOC content: 88.40 % | Upper: | 44 Vol % |
| Relative density Vapor density Not applicable. Evaporation rate Not applicable. Solubility in / Miscibility with Water: Fully miscible. Partition coefficient (n-octanol/water): Not applicable. Viscosity: Dynamic: Kinematic: Not applicable. Solvent content: Organic solvents: 88.4 % VOC content: 88.40 % | · Vapor pressure at 20 °C (68 °F): | 128 hPa (96 mm Hg) |
| 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: 88.4 % VOC content: 88.40 % | · Density | Not applicable. |
| · Evaporation rate · Solubility in / Miscibility with Water: · Partition coefficient (n-octanol/water): Not applicable. · Viscosity: Dynamic: Kinematic: Not applicable. · Solvent content: Organic solvents: VOC content: 88.4 % 88.40 % | · Relative density | Not applicable. |
| · Solubility in / Miscibility with Water: - Partition coefficient (n-octanol/water): Not applicable. - Viscosity: Dynamic: Not applicable. Kinematic: Not applicable. - Solvent content: Organic solvents: 0 88.4 % VOC content: 88.40 % | · Vapor density | Not applicable. |
| Water: Fully miscible. Partition coefficient (n-octanol/water): Not applicable. Viscosity: Dynamic: Not applicable. Kinematic: Not applicable. Solvent content: Organic solvents: 88.4 % VOC content: 88.40 % | · Evaporation rate | Not applicable. |
| · Partition coefficient (n-octanol/water): Not applicable. · Viscosity: Dynamic: Not applicable. Kinematic: Not applicable. · Solvent content: Organic solvents: 88.4 % VOC content: 88.40 % | · Solubility in / Miscibility with | |
| · Viscosity: Dynamic: Not applicable. Kinematic: Not applicable. · Solvent content: Organic solvents: 88.4 % VOC content: 88.40 % | Water: | Fully miscible. |
| Dynamic: Not applicable. Kinematic: Not applicable. Solvent content: Organic solvents: 88.4 % VOC content: 88.40 % | · Partition coefficient (n-octanol/wate | r): Not applicable. |
| Kinematic: Not applicable. Solvent content: Organic solvents: 88.4 % VOC content: 88.40 % | · Viscosity: | |
| Solvent content: Organic solvents: 88.4 % VOC content: 88.40 % | Dynamic: | Not applicable. |
| Organic solvents: 88.4 % VOC content: 88.40 % | Kinematic: | Not applicable. |
| VOC content: 88.40 % | · Solvent content: | |
| VOC content: 88.40 % | Organic solvents: | 88.4 % |
| Solids content: 0.2 % | VOC content: | 88.40 % |
| | Solids content: | 0.2 % |
| · Other information No further relevant information available. | · 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:

| 110me n | | | |
|----------|-----------------------------|--|--|
| · LD/LCS | 50 valu | es that are relevant for classification: | |
| 67-56-1 | | | |
| Oral | LD50 | 5,628 mg/kg (rat) 15,800 mg/kg (rabbit) | |
| Dermal | LD50 | 15,800 mg/kg (rabbit) | |
| | 107-14-2 chloroacetonitrile | | |
| Oral | LD50 | 220 mg/kg (rat) | |
| Dermal | LD50 | 71 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

Harmful

Irritant

Product is suspected to cause damage to fertility.

Product is suspected to cause birth defects.

· Carcinogenic categories

| · IARC (Inte | · IARC (International Agency for Research on Cancer) | | |
|--------------|--|----|--|
| 107-14-2 | chloroacetonitrile | 3 | |
| 98-95-3 | nitrobenzene | 2B | |
| 79-46-9 | 2-nitropropane | 2B | |

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| | | (Contd. of page 8 |
|--------------|---|-------------------|
| 80-62-6 | methyl methacrylate | 3 |
| 107-13-1 | acrylonitrile | 2 <i>B</i> |
| 109-99-9 | tetrahydrofuran | 2 <i>B</i> |
| 110-57-6 | (2E)-1,4-dichloro-2-butene | 3 |
| 67-72-1 | hexachloroethane | 2 <i>B</i> |
| 74-88-4 | iodomethane | 3 |
| 96-33-3 | methyl acrylate | 2 <i>B</i> |
| 107-05-1 | 3-chloropropene | 3 |
| 1634-04-4 | Methyl-tert-butyl ether | 3 |
| · NTP (Natio | onal Toxicology Program) | |
| 98-95-3 1 | uitrobenzene | R |
| 79-46-9 | 2-nitropropane | R |
| 107-13-1 d | acrylonitrile | R |
| 67-72-1 | nexachloroethane | R |
| · OSHA-Ca | (Occupational Safety & Health Administration) | |
| 107-13-1 d | 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.
- · 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

| ٠ | UN-Number | | | |
|---|-----------|--|--|--|
| | T 0.00 | | | |

UN1230 · DOT, ADR, IMDG, IATA

 \cdot UN proper shipping name

 $\cdot DOT$ Methanol $\cdot ADR$ 1230 METHANOL · IMDG, IATA **METHANOL**

· Transport hazard class(es)

 $\cdot DOT$





· Class 3 Flammable liquids

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(Contd. of page 9) · Label 3, 6.1

 \cdot ADR





· Class 3 Flammable liquids 3+6.1

 \cdot Label

 \cdot *IMDG*





3 Flammable liquids · Class · Label 3/6.1

 \cdot 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

· Hazard identification number (Kemler code): · EMS Number: F-E,S-D· Stowage Category В

SW2 Clear of living quarters. · Stowage Code

· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

· Transport/Additional information:

Code: E2 · Excepted quantities (EQ)

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

 \cdot IMDG

· Limited quantities (LQ) 1LCode: E2

· Excepted quantities (EQ)

Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml

UN 1230 METHANOL, 3 (6.1), II · UN "Model Regulation":

15 Regulatory information

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

| · sara | |
|---------------|---------------------------------------|
| · Section 31. | 3 (Specific toxic chemical listings): |
| | methanol |
| 98-95-3 | nitrobenzene |
| | 2-nitropropane |
| 80-62-6 | methyl methacrylate |
| | acrylonitrile |
| 110-57-6 | (2E)-1,4-dichloro-2-butene |
| 67-72-1 | hexachloroethane |
| 74-88-4 | iodomethane |
| 75-15-0 | carbon disulphide |

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98-95-3 nitrobenzene 80-62-6 methyl methacrylate

| | | (Contd. of page 10) |
|--------------|---|---------------------|
| | methyl acrylate | |
| 107-05-1 | 3-chloropropene | |
| 126-98-7 | methacrylonitrile | |
| 1634-04-4 | Methyl-tert-butyl ether | |
| · TSCA (To: | cic Substances Control Act): | |
| | methanol | ACTIVE |
| | chloroacetonitrile | ACTIVE |
| | nitrobenzene | ACTIVE |
| | propanenitrile | ACTIVE |
| | 2-nitropropane | ACTIVE |
| | methyl methacrylate | ACTIVE |
| | acrylonitrile | ACTIVE |
| | tetrahydrofuran | ACTIVE |
| | (2E)-1,4-dichloro-2-butene | ACTIVE |
| | diethyl ether | ACTIVE |
| | hexachloroethane | ACTIVE |
| | iodomethane | |
| | | ACTIVE |
| | carbon disulphide | ACTIVE |
| | methyl acrylate | ACTIVE |
| | ethyl methacrylate | ACTIVE |
| | 3-chloropropene | ACTIVE |
| | 1-chlorobutane | ACTIVE |
| | methacrylonitrile | ACTIVE |
| 1634-04-4 | Methyl-tert-butyl ether | ACTIVE |
| · Hazardous | Air Pollutants | |
| 67-56-1 | methanol | |
| 98-95-3 | nitrobenzene | |
| 79-46-9 | 2-nitropropane | |
| 80-62-6 | methyl methacrylate | |
| 107-13-1 | acrylonitrile | |
| 67-72-1 | hexachloroethane | |
| 74-88-4 | iodomethane | |
| 75-15-0 | carbon disulphide | |
| 107-05-1 | 3-chloropropene | |
| | Methyl-tert-butyl ether | |
| · Propositio | | |
| | known to cause cancer: | |
| | nitrobenzene | |
| | 2-nitropropane | |
| | ncrylonitrile | |
| | etrahydrofuran | |
| | nexachloroethane | |
| | odomethane | |
| | nethyl acrylate | |
| | | |
| | known to cause reproductive toxicity for females: | |
| | ırbon disulphide | |
| | known to cause reproductive toxicity for males: | |
| | trobenzene | |
| 75-15-0 ce | ırbon disulphide | |
| · Chemicals | known to cause developmental toxicity: | |
| 67-56-1 m | | |
| | urbon disulphide | |
| | | |
| | nic categories | |
| · EPA (Envi | ronmental Protection Agency) | |

E, NL

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Product Name: REV 4.0 Add-Ons

| | | (Contd. of page 1 |
|---|-----------------------------|-------------------|
| 107-13-1 acrylonitrile | | B1 |
| 109-99-9 tetrahydrofuran | | SC |
| 67-72-1 hexachloroethane | | L |
| 96-33-3 methyl acrylate | | D |
| 107-05-1 3-chloropropene | | C |
| 109-69-3 1-chlorobutane | | D |
| · TLV (Threshold Limit Value) | | |
| 98-95-3 nitrobenzene | | A3 |
| 79-46-9 2-nitropropane | | A.3 |
| 80-62-6 methyl methacrylate | | A |
| 107-13-1 acrylonitrile | | A |
| 109-99-9 tetrahydrofuran | | A3 |
| 67-72-1 hexachloroethane | | A |
| 75-15-0 carbon disulphide | | A |
| 96-33-3 methyl acrylate | | A |
| 107-05-1 3-chloropropene | | A. |
| 1634-04-4 Methyl-tert-butyl ether | | A |
| · NIOSH-Ca (National Institute for Occu | pational Safety and Health) | |
| 79-46-9 2-nitropropane | | |
| 107-13-1 acrylonitrile | | |
| 67-72-1 hexachloroethane | | |
| 74-88-4 iodomethane | | |

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









GHS08

GHS02

S02 GHS06

· Hazard-determining components of labeling:

methanol nitrobenzene methacrylonitrile chloroacetonitrile methyl methacrylate acrylonitrile methyl acrylate ethyl methacrylate

· Signal word Danger

Hazard statements

H225 Highly flammable liquid and vapor.

H302+H312 Harmful if swallowed or in contact with skin.

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.

H372-H373 Causes damage to the blood through prolonged or repeated exposure. 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.

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

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

P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.

P330 Rinse mouth.

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.

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.



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Product Name: REV 4.0 Add-Ons

(Contd. of page 12)

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 04/22/2024

· 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 - Oral 4: Acute toxicity – Category 4 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 1: Specific target organ toxicity (repeated exposure) - Category 1