Safety Data Sheet

Cat. # 786-12XT

CB Xâ„¢ Protein Assay

Size: 10 Assays
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form: Mixture
Product name: CB-X
EC Index-No.: 606-001-00-8
EC-No.: 200-662-2
Product code: 113C
Type of product: Pure substance
Formula: C₃H₆O
Product group: Trade product
BIG no: 10001

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/mixture: Solvent

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
63132-1429 Saint Louis - United States
T 800-628-7730 - F 314-991-1504
technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number

Emergency number: Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

<table>
<thead>
<tr>
<th>Country</th>
<th>Organisation/Company</th>
<th>Address</th>
<th>Emergency number</th>
<th>Comment</th>
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<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Belfast Centre)</td>
<td>Grosvenor Road BT12 6BA Belfast</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Royal Victoria Hospital</td>
<td></td>
<td></td>
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<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Birmingham Centre)</td>
<td>Dudley Road B18 7QH Birmingham</td>
<td>0344 892 0111</td>
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<td></td>
<td>City Hospital</td>
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<td>United Kingdom</td>
<td>National Poisons Information Service (Cardiff Centre)</td>
<td>Penarth CF64 2XX Cardiff</td>
<td>0344 892 0111</td>
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<td></td>
<td>Gwentwyn Ward, Llandough Hospital</td>
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<td>United Kingdom</td>
<td>National Poisons Information Service Edinburgh</td>
<td>Little France Crescent EH16 4SA Edinburgh</td>
<td>0344 892 0111</td>
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<td></td>
<td>Royal Infirmary of Edinburgh</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>United Kingdom</td>
<td>Guy's &amp; St Thomas' Poisons Unit</td>
<td>Avenley Road SE14 5ER London</td>
<td>0870 243 2241</td>
<td></td>
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<tr>
<td></td>
<td>Medical Toxicology Unit, Guy's &amp; St Thomas' Hospital Trust</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Newcastle Centre)</td>
<td>Claremont Place Newcastle-upon-Tyne NE1 4LP Newcastle</td>
<td>0344 892 0111</td>
<td></td>
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<tr>
<td></td>
<td>Regional Drugs and Therapeutics Centre, Wolfson Unit</td>
<td></td>
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</table>

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable liquids, Category 2 H225
CB-X
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Serious eye damage/eye irritation, Category H319
Specific target organ toxicity — Single exposure, Category 3, Narcosis H336
Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects
Highly flammable liquid and vapour. May cause drowsiness or dizziness. Causes serious eye irritation.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP):

- GHS02
- GHS07

CLP Signal word : Danger
Hazardous ingredients : acetone
Hazard statements (CLP):
- H225 - Highly flammable liquid and vapour.
- H319 - Causes serious eye irritation.
- H336 - May cause drowsiness or dizziness.

Precautionary statements (CLP):
- P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233 - Keep container tightly closed.
- P240 - Ground and bond container and receiving equipment.
- P241 - Use explosion-proof equipment.
- P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
- P264 - Wash hands, forearms and face thoroughly after handling.
- P271 - Use only outdoors or in a well-ventilated area.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTRE or doctor if you feel unwell.
- P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P312 - Call a POISON CENTRE or doctor if you feel unwell.
- P337+P313 - If eye irritation persists: Get medical advice/attention.
- P370+P313 - If eye irritation persists: Get medical advice/attention.
- P378 - In case of fire: Use media other than water to extinguish.
- P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
- P403+P235 - Store in a well-ventilated place. Keep cool.
- P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
</table>
| acetone            | (CAS-No.) 67-64-1  
                     | (EC-No.) 200-662-2  
                     | (EC Index-No.) 606-001-00-8 | => 80 Flam. Liq. 2, H225  
                     |                             |                             | Eye Irrit. 2, H319  
                     |                             |                             | STOT SE 3, H336       |
| Iso-amyl Alcohol   | (CAS-No.) 123-51-3  
                     | (EC-No.) 204-633-5  
                     | (EC Index-No.) 603-006-00-7 | < 0.05 Flam. Liq. 3, H226  
                     |                             |                             | Acute Tox. 4 (Inhalation), H332  
                     |                             |                             | STOT SE 3, H335       |
CB-X
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

chloroform  
(CAS-No.) 67-66-3  
(EC-No.) 200-663-8  
(EC Index-No.) 602-006-00-4  
< 0.05  
Acute Tox. 4 (Oral), H302  
Acute Tox. 3 (Inhalation), H331  
Skin Irrit. 2, H315  
Eye Irrit. 2, H319  
Carc. 2, H351  
Repr. 2, H361d  
STOT RE 1, H372  
Aquatic Acute 1, H400 (M=100)

2-propanol  
(CAS-No.) 67-63-0  
(EC-No.) 200-661-7  
(EC Index-No.) 603-117-00-0  
< 0.05  
Flam. Liq. 2, H225  
Eye Irrit. 2, H319  
STOT SE 3, H336

hydrogen chloride, conc=36%, aqueous solution  
(CAS-No.) 7647-01-0  
(EC-No.) 231-595-7  
(EC Index-No.) 017-002-01-X  
< 0.05  
Skin Corr. 1A, H314  
STOT SE 3, H335

Specific concentration limits:

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>Specific concentration limits</th>
</tr>
</thead>
</table>
| hydrogen chloride, conc=36%, aqueous solution | (CAS-No.) 7647-01-0  
(EC-No.) 231-595-7  
(EC Index-No.) 017-002-01-X | (C >= 10) STOT SE 3, H335  
(10 <= C < 25) Eye Irrit. 2, H319  
(10 <= C < 25) Skin Irrit. 2, H315  
(C >= 25) Skin Corr. 1B, H314 |

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures


First-aid measures after inhalation : Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact : Wash immediately with lots of water. Soap may be used. Do not apply (chemical) neutralizing agents. Remove clothing before washing. Take victim to a doctor if irritation persists.

First-aid measures after eye contact : Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.


4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects : May cause drowsiness or dizziness.


Symptoms/effects after skin contact : ON CONTINUOUS EXPOSURE/CONTACT: Not irritating. Cracking of the skin.

Symptoms/effects after eye contact : Irritation of the eye tissue.


4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media


Unsuitable extinguishing media : Water (quick-acting extinguisher, reel); risk of puddle expansion. Water; risk of puddle expansion.
5.2. Special hazards arising from the substance or mixture

Fire hazard: DIRECT FIRE HAZARD: Highly flammable liquid and vapour. Gas/vapour flammable with air within explosion limits. INDIRECT FIRE HAZARD: May be ignited by sparks. Gas/vapour spreads at floor level: ignition hazard. Reactions involving a fire hazard: see "Reactivity Hazard".

Explosion hazard: DIRECT EXPLOSION HAZARD: Gas/vapour explosive with air within explosion limits. INDIRECT EXPLOSION HAZARD: Heat may cause pressure rise in tanks/drum: explosion risk. May be ignited by sparks. Reactions with explosion hazards: see "Reactivity Hazard".

Hazardous decomposition products in case of fire: Toxic fumes may be released.

5.3. Advice for firefighters

Firefighting instructions: Cool tanks/drum with water spray/remove them into safety. Physical explosion risk: extinguish/cool from behind cover. Do not move the load if exposed to heat. After cooling: persistent risk of physical explosion.


SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel


6.1.2. For emergency responders

Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

For containment: Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Dam up the liquid spill. Try to reduce evaporation. Measure the concentration of the explosive gas-air mixture. Dilute/disperse combustible gas/vapour with water curtain. Provide equipment/receptacles with earthing. Do not use compressed air for pumping over spills.

Methods for cleaning up: Take up liquid spill into inert absorbent material, e.g.: sand, earth, vermiculite. Scoop absorbed substance into closing containers. Spill must not return in its original container. Carefully collect the spill/leffovers. Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

Other information: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Measure the concentration in the air regularly. Work under local exhaust/ventilation. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Handle uncleaned empty containers as full ones. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Do not use compressed air for pumping over.

Hygiene measures: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures: Ground/bond container and receiving equipment.

Storage conditions: Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

Storage temperature: 15 - 20 °C


Information on mixed storage: KEEP SUBSTANCE AWAY FROM: oxidizing agents. reducing agents. (strong) acids. (strong) bases. halogens. amines.

Special rules on packaging: SPECIAL REQUIREMENTS: closing. with pressure relief valve. clean. opaque. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

Packaging materials: SUITABLE MATERIAL: steel. stainless steel. carbon steel. aluminium. iron. copper. nickel. bronze. glass. MATERIAL TO AVOID: synthetic material.

7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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<tr>
<th>Substance</th>
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<td></td>
</tr>
<tr>
<td>EU</td>
<td></td>
<td></td>
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<tr>
<td>EU IOELV TWA (mg/m³)</td>
<td>1210 mg/m³</td>
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<td>EU IOELV TWA (ppm)</td>
<td>500 ppm</td>
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<tr>
<td>United Kingdom WEL TWA (mg/m³)</td>
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<tr>
<td>United Kingdom WEL TWA (ppm)</td>
<td>500 ppm</td>
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</tr>
<tr>
<td>United Kingdom WEL STEL (mg/m³)</td>
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<td>United Kingdom WEL STEL (ppm)</td>
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<tr>
<td>EU IOELV TWA (mg/m³)</td>
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<td></td>
</tr>
<tr>
<td>EU IOELV TWA (ppm)</td>
<td>500 ppm</td>
<td></td>
</tr>
<tr>
<td>United Kingdom WEL TWA (mg/m³)</td>
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<tr>
<td>United Kingdom WEL TWA (ppm)</td>
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<tr>
<td>United Kingdom WEL STEL (mg/m³)</td>
<td>3620 mg/m³</td>
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<tr>
<td>United Kingdom WEL STEL (ppm)</td>
<td>1500 ppm</td>
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<table>
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<tr>
<th>Substance</th>
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<td>Iso-amyl Alcohol (123-51-3)</td>
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<td>WEL TWA (mg/m³)</td>
<td>366 mg/m³</td>
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<td>WEL STEL (mg/m³)</td>
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<td>WEL STEL (ppm)</td>
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<td>EU IOELV TWA (mg/m³)</td>
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<td>2-propanol (67-63-0)</td>
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<td>999 mg/m³</td>
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<td>1250 mg/m³</td>
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<tr>
<td>WEL STEL (ppm)</td>
<td>500 ppm</td>
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<tr>
<th>Substance</th>
<th>CB-X DNEL/DMEL (Workers)</th>
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<tr>
<td>Acute - local effects, inhalation</td>
<td>2420 mg/m³</td>
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<tr>
<td>Long-term - systemic effects, dermal</td>
<td>186 mg/kg bw/day</td>
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<tr>
<td>Long-term - systemic effects, inhalation</td>
<td>1210 mg/m³</td>
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<th>CB-X DNEL/DMEL (General population)</th>
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<tbody>
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<td>Long-term - systemic effects, oral</td>
<td>62 mg/kg bw/day</td>
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<tr>
<td>Long-term - systemic effects, inhalation</td>
<td>200 mg/m³</td>
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<tr>
<td>Long-term - systemic effects, dermal</td>
<td>62 mg/kg bw/day</td>
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<table>
<thead>
<tr>
<th>Substance</th>
<th>PNEC (Water)</th>
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<tr>
<td>PNEC aqua (freshwater)</td>
<td>10.6 mg/l</td>
</tr>
<tr>
<td>PNEC aqua (marine water)</td>
<td>1.06 mg/l</td>
</tr>
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<tr>
<th>Substance</th>
<th>PNEC (Sediment)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNEC sediment (freshwater)</td>
<td>30.4 mg/kg dwt</td>
</tr>
<tr>
<td>PNEC sediment (marine water)</td>
<td>3.04 mg/kg dwt</td>
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<thead>
<tr>
<th>Substance</th>
<th>PNEC (Soil)</th>
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<tr>
<td>PNEC soil</td>
<td>29.5 mg/kg dwt</td>
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<table>
<thead>
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<th>Substance</th>
<th>PNEC (STP)</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th></th>
</tr>
</thead>
</table>
8.2. Exposure controls

Appropriate engineering controls:
Ensure good ventilation of the work station.

Materials for protective clothing:
GIVE GOOD RESISTANCE: butyl rubber, tetrafluoroethylene. GIVE LESS RESISTANCE: chlorosulfonated polyethylene, natural rubber, neoprene, polyurethane, PVA, styrene-butadiene rubber. GIVE POOR RESISTANCE: nitrile rubber, polyethylene, PVC, viton, nitrile rubber/PVC

Hand protection:
Gloves

Eye protection:
Safety glasses

Skin and body protection:
Head/neck protection. Protective clothing

Respiratory protection:
Full face mask with filter type AX at conc. in air > exposure limit

Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

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<thead>
<tr>
<th>Property</th>
<th>Value</th>
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<tr>
<td>Physical state</td>
<td>Liquid</td>
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<tr>
<td>Appearance</td>
<td>Liquid.</td>
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<tr>
<td>Molecular mass</td>
<td>58.08 g/mol</td>
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<tr>
<td>Colour</td>
<td>Colourless</td>
</tr>
<tr>
<td>Odour</td>
<td>Aromatic odour. Sweet odour. Fruity odour.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>306 - 653 ppm</td>
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<tr>
<td></td>
<td>737 - 1574 mg/m³</td>
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<tr>
<td>pH</td>
<td>7 (10 g/l)</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>6</td>
</tr>
<tr>
<td>Relative evaporation rate (ether=1)</td>
<td>2</td>
</tr>
<tr>
<td>Melting point</td>
<td>-95 °C</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
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<tr>
<td>Boiling point</td>
<td>56 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>-17 °C (Closed cup)</td>
</tr>
<tr>
<td>Critical temperature</td>
<td>235 °C</td>
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<tr>
<td>Auto-ignition temperature</td>
<td>465 °C</td>
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<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
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<tr>
<td>Flammability (solid, gas)</td>
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<tr>
<td>Vapour pressure</td>
<td>247 hPa (20 °C)</td>
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<tr>
<td>Vapour pressure at 50 °C</td>
<td>828 hPa</td>
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<tr>
<td>Critical pressure</td>
<td>47010 hPa</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>2</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.79</td>
</tr>
<tr>
<td>Relative density of saturated gas/air mixture</td>
<td>1.2</td>
</tr>
<tr>
<td>Density</td>
<td>786 kg/m³</td>
</tr>
<tr>
<td>Log Pow</td>
<td>-0.24 (Test data)</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>0.417 mm²/s</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>0.32 mPa.s (20 °C)</td>
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</table>
Explosive properties : No data available
Oxidising properties : No data available
Explosive limits : 2 - 12.8 vol %
                    60 - 310 g/m³
Lower explosive limit (LEL) : 2 vol %
Upper explosive limit (UEL) : 12.8 vol %

9.2. Other information
Minimum ignition energy : 1.15 mJ
Specific conductivity : 6000000 pS/m (25 °C)
Saturation concentration : 589 g/m³
VOC content : 100 %
Other properties : Gas/vapour heavier than air at 20°C. Clear. Highly volatile. Substance has neutral reaction.

SECTION 10: Stability and reactivity

10.1. Reactivity
Violent to explosive reaction with many compounds. Prolonged storage: on exposure to light: release of harmful gases/vapours.

10.2. Chemical stability
Unstable on exposure to light.

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid
Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials
No additional information available

10.6. Hazardous decomposition products
Hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

CB-X
LD50 oral rat 5800 mg/kg (Equivalent or similar to OECD 401, Rat, Female, Experimental value)
LD50 dermal rabbit 20000 mg/kg (Equivalent or similar to OECD 402, Rabbit, Male, Experimental value)
LC50 inhalation rat (mg/l) 76 mg/l (Other, 4 h, Rat, Female, Experimental value)
ATE CLP (vapours) 76 mg/l/4h
ATE CLP (dust,mist) 76 mg/l/4h
acetone (67-64-1)
LD50 oral rat 5800 mg/kg (Equivalent or similar to OECD 401, Rat, Female, Experimental value)
LD50 dermal rabbit 20000 mg/kg (Equivalent or similar to OECD 402, Rabbit, Male, Experimental value)
LC50 inhalation rat (mg/l) 76 mg/l (Other, 4 h, Rat, Female, Experimental value)
Iso-amyl Alcohol (123-51-3)
LD50 oral rat > 2000 mg/kg (Rat)
LD50 dermal rabbit 3216 mg/kg (Rabbit)
chloroform (67-66-3)
LD50 oral rat 908 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male, Experimental value)
LD50 dermal rabbit > 3980 mg/kg bodyweight (24 h, Rabbit, No reliable data available)
2-propanol (67-63-0)
LD50 oral rat 5840 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Experimental value)
LD50 dermal rabbit 16400 ml/kg (Equivalent or similar to OECD 402, 24 h, Rabbit, Experimental value)
LC50 inhalation rat (ppm) > 10000 ppm (Equivalent or similar to OECD 403, 6 h, Rat, Male/female, Experimental value)

Skin corrosion/irritation : Not classified
pH: 7 (10 g/l)
CB-X Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Serious eye damage/irritation: Causes serious eye irritation.

pH: 7 (10 g/l)

Respiratory or skin sensitisation: Not classified

Germ cell mutagenicity: Not classified

Carcinogenicity: Not classified

Reproductive toxicity: Not classified

STOT-single exposure: May cause drowsiness or dizziness.

STOT-repeated exposure: Not classified

Aspiration hazard: Not classified

CB-X

Viscosity, kinematic: 0.417 mm²/s

Potential adverse human health effects and symptoms: Odour tolerance may develop. Non-toxic if swallowed (LD50 oral, rat > 5000 mg/kg). Repeated exposure may cause skin dryness or cracking. Non-toxic in contact with skin (LD50 skin > 5000 mg/kg). May cause drowsiness or dizziness. Non-toxic by inhalation (LC50 inh, rat > 50 mg/l/4h). Slightly irritant to respiratory organs. Causes serious eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general: Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.


Acute aquatic toxicity: Not classified

Chronic aquatic toxicity: Not classified

CB-X

LC50 fish 1 5540 mg/l (EU Method C.1, 96 h, Salmo gairdneri, Static system, Fresh water, Experimental value)

EC50 96h algae (1) > 7000 mg/l (Selenastrum capricornutum, Static system, Fresh water, Experimental value)

acetone (67-64-1)

LC50 fish 1 5540 mg/l (EU Method C.1, 96 h, Salmo gairdneri, Static system, Fresh water, Experimental value)

EC50 96h algae (1) > 7000 mg/l (Selenastrum capricornutum, Static system, Fresh water, Experimental value)

Iso-amyl Alcohol (123-51-3)

LC50 fish 1 700 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Salmo gairdneri, Static system, Fresh water, Experimental value)

EC50 Daphnia 1 255 mg/l (DIN 38412-11, 48 h, Daphnia magna, Static system, Fresh water, Experimental value)

EC50 72h algae (1) > 500 mg/l (DIN 38412-9, Scenedesmus subspicatus, Static system, Fresh water, Experimental value)

chloroform (67-66-3)

LC50 fish 1 0.0024 mg/l (LC50; ASTM; 96 h; Oncorhynchus mykiss; Flow-through system; Fresh water, Experimental value)

ErC50 (algae) 13.3 mg/l (Other, 72 h, Chlamydomonas reinhardtii, Static system, Fresh water, Experimental value)

hydrogen chloride, conc=36%, aqueous solution (7647-01-0)

LC50 fish 1 282 mg/l (96 h, Gambusia affinis)

EC50 Daphnia 1 < 56 mg/l (72 h, Daphnia magna)

2-propanol (67-63-0)

LC50 fish 1 9640 - 10000 mg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value)

12.2. Persistence and degradability

CB-X


Biochemical oxygen demand (BOD): 1.43 g O₂/g substance
<table>
<thead>
<tr>
<th>Chemical</th>
<th>COD (g O₂/g substance)</th>
<th>ThOD (g O₂/g substance)</th>
<th>BOD (% of ThOD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>acetone (67-64-1)</td>
<td>1.92</td>
<td>2.2</td>
<td>0.872 (20 day(s), Literature study)</td>
</tr>
<tr>
<td>Iso-amyl Alcohol (123-51-3)</td>
<td>1.6</td>
<td>2.44</td>
<td>0.59</td>
</tr>
<tr>
<td>chloroform (67-66-3)</td>
<td>1.19</td>
<td>2.23</td>
<td></td>
</tr>
<tr>
<td>hydrogen chloride, conc=36%, aqueous solution (7647-01-0)</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>2-propanol (67-63-0)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Bioaccumulative potential

<table>
<thead>
<tr>
<th>Substance</th>
<th>BCF fish 1</th>
<th>BCF other aquatic organisms 1</th>
<th>Log Pow</th>
<th>Bioaccumulative potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>CB-X</td>
<td>0.69 (Piscis)</td>
<td>3 (BCFWIN, Calculated value)</td>
<td>-0.24 (Test data)</td>
<td>Not bioaccumulative.</td>
</tr>
<tr>
<td>acetone (67-64-1)</td>
<td>0.69 (Piscis)</td>
<td>3 (BCFWIN, Calculated value)</td>
<td>-0.24 (Test data)</td>
<td>Not bioaccumulative.</td>
</tr>
<tr>
<td>Iso-amyl Alcohol (123-51-3)</td>
<td>1.35 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method)</td>
<td>Low potential for bioaccumulation (Log Kow &lt; 4).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>chloroform (67-66-3)</td>
<td>4.1 - 13 (OECD 305: Bioconcentration: Flow-Through Fish Test, 42 day(s), Cyprinus carpio, Flow-through system, Fresh water, Experimental value)</td>
<td>1.97 (Experimental value, 20 °C)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
chloroform (67-66-3)
Bioaccumulative potential: Low potential for bioaccumulation (BCF < 500).

hydrogen chloride, conc=36%, aqueous solution (7647-01-0)
Log Pow: 0.25 (QSAR)
Bioaccumulative potential: Low potential for bioaccumulation (Log Kow < 4).

2-propanol (67-63-0)
Log Pow: 0.05 (Weight of evidence approach, 25 °C)
Bioaccumulative potential: Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

CB-X
Surface tension: 0.0237 N/m
Ecology - soil: No (test)data on mobility of the substance available.

acetone (67-64-1)
Surface tension: 0.0237 N/m
Ecology - soil: No (test)data on mobility of the substance available.

Iso-amyl Alcohol (123-51-3)
Surface tension: 0.024 N/m (20 °C)
Log Koc: 0.73 (log Koc, SRC PCKOCWIN v2.0, QSAR)
Ecology - soil: Highly mobile in soil.

chloroform (67-66-3)
Surface tension: 0.0271 N/m (20 °C)
Log Koc: 1.8 - 2.6 (log Koc, Other, Experimental value)
Ecology - soil: Low potential for adsorption in soil. May be harmful to plant growth, blooming and fruit formation.

hydrogen chloride, conc=36%, aqueous solution (7647-01-0)
Ecology - soil: No (test)data on mobility of the components available. May be harmful to plant growth, blooming and fruit formation.

2-propanol (67-63-0)
Surface tension: 0.021 N/m (25 °C)
Ecology - soil: No (test)data on mobility of the substance available.

12.5. Results of PBT and vPvB assessment

CB-X
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

Component
acetone (67-64-1) This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Product/Packaging disposal recommendations: Do not discharge into drains or the environment. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle by distillation. Incinerate under surveillance with energy recovery.
European List of Waste (LoW) code: 15 01 10* - packaging containing residues of or contaminated by dangerous substances 07 01 04* - other organic solvents, washing liquids and mother liquors

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number
UN-No. (ADR): 1090
## 14.2. UN proper shipping name

<table>
<thead>
<tr>
<th>UN-No. (IMDG)</th>
<th>1090</th>
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<tbody>
<tr>
<td>UN-No. (IATA)</td>
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<tr>
<td>UN-No. (RID)</td>
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</table>

<table>
<thead>
<tr>
<th>Proper Shipping Name (ADR)</th>
<th>Acetone</th>
</tr>
</thead>
<tbody>
<tr>
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<td>acetone</td>
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<tr>
<td>Proper Shipping Name (IATA)</td>
<td>Acetone</td>
</tr>
<tr>
<td>Proper Shipping Name (ADN)</td>
<td>Acetone</td>
</tr>
<tr>
<td>Transport document description (ADR)</td>
<td>UN 1090 Acetone, 3, II, (D/E)</td>
</tr>
<tr>
<td>Transport document description (IMDG)</td>
<td>UN 1090 acetone, 3, II</td>
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<tr>
<td>Transport document description (IATA)</td>
<td>UN 1090 Acetone, 3, II</td>
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<tr>
<td>Transport document description (ADN)</td>
<td>UN 1090 Acetone, 3, II</td>
</tr>
<tr>
<td>Transport document description (RID)</td>
<td>UN 1090 Acetone, 3, II</td>
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## 14.3. Transport hazard class(es)

### ADR

<table>
<thead>
<tr>
<th>Transport hazard class(es) (ADR)</th>
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<tr>
<td>Danger labels (ADR)</td>
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### IMDG

<table>
<thead>
<tr>
<th>Transport hazard class(es) (IMDG)</th>
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<tr>
<td>Danger labels (IMDG)</td>
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</tbody>
</table>

### IATA

<table>
<thead>
<tr>
<th>Transport hazard class(es) (IATA)</th>
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</thead>
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<tr>
<td>Hazard labels (IATA)</td>
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</table>

### ADN

<table>
<thead>
<tr>
<th>Transport hazard class(es) (ADN)</th>
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</thead>
<tbody>
<tr>
<td>Danger labels (ADN)</td>
<td>3</td>
</tr>
</tbody>
</table>

### RID

| Transport hazard class(es) (RID) | 3 |
Danger labels (RID) : 3

14.4. Packing group
Packing group (ADR) : II
Packing group (IMDG) : II
Packing group (IATA) : II
Packing group (ADN) : II
Packing group (RID) : II

14.5. Environmental hazards
Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user
- Overland transport
  Transport regulations (ADR) : Subject
  Classification code (ADR) : F1
  Hazard identification number (Kemler No.) : 33
  Orange plates :
  Tunnel restriction code (ADR) : D/E
  EAC code : •2YE

- Transport by sea
  Transport regulations (IMDG) : Subject
  EmS-No. (Fire) : F-E
  EmS-No. (Spillage) : S-D

- Air transport
  Transport regulations (IATA) : Subject to the provisions

- Inland waterway transport
  Classification code (ADN) : F1
  Carriage permitted (ADN) : T

- Rail transport
  Transport regulations (RID) : Subject
  Classification code (RID) : F1

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable

SECTION 15: Regulatory information
15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations
Contains no REACH substances with Annex XVII restrictions
Contains no substance on the REACH candidate list
Contains no REACH Annex XIV substances
VOC content : 100 %
15.1.2. National regulations
No additional information available

15.2. Chemical safety assessment
No chemical safety assessment has been carried out

SECTION 16: Other information

Full text of H- and EUH-statements:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>Acute Tox. 3 (Inhalation)</td>
<td>Acute toxicity (inhal.), Category 3</td>
</tr>
<tr>
<td>Acute Tox. 4 (Inhalation)</td>
<td>Acute toxicity (inhal.), Category 4</td>
</tr>
<tr>
<td>Acute Tox. 4 (Oral)</td>
<td>Acute toxicity (oral), Category 4</td>
</tr>
<tr>
<td>Aquatic Acute 1</td>
<td>Hazardous to the aquatic environment — Acute Hazard, Category 1</td>
</tr>
<tr>
<td>Carc. 2</td>
<td>Carcinogenicity, Category 2</td>
</tr>
<tr>
<td>Eye Irrit. 2</td>
<td>Serious eye damage/eye irritation, Category 2</td>
</tr>
<tr>
<td>Flam. Liq. 2</td>
<td>Flammable liquids, Category 2</td>
</tr>
<tr>
<td>Flam. Liq. 3</td>
<td>Flammable liquids, Category 3</td>
</tr>
<tr>
<td>Repr. 2</td>
<td>Reproductive toxicity, Category 2</td>
</tr>
<tr>
<td>Skin Corr. 1A</td>
<td>Skin corrosion/irritation, Category 1A</td>
</tr>
<tr>
<td>Skin Irrit. 2</td>
<td>Skin corrosion/irritation, Category 2</td>
</tr>
<tr>
<td>STOT RE 1</td>
<td>Specific target organ toxicity — Repeated exposure, Category 1</td>
</tr>
<tr>
<td>STOT SE 3</td>
<td>Specific target organ toxicity — Single exposure, Category 3, Narcosis</td>
</tr>
<tr>
<td>STOT SE 3</td>
<td>Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation</td>
</tr>
<tr>
<td>H225</td>
<td>Highly flammable liquid and vapour.</td>
</tr>
<tr>
<td>H226</td>
<td>Flammable liquid and vapour.</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>H331</td>
<td>Toxic if inhaled.</td>
</tr>
<tr>
<td>H332</td>
<td>Harmful if inhaled.</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation.</td>
</tr>
<tr>
<td>H336</td>
<td>May cause drowsiness or dizziness.</td>
</tr>
<tr>
<td>H351</td>
<td>Suspected of causing cancer.</td>
</tr>
<tr>
<td>H361d</td>
<td>Suspected of damaging the unborn child.</td>
</tr>
<tr>
<td>H372</td>
<td>Causes damage to organs through prolonged or repeated exposure.</td>
</tr>
<tr>
<td>H400</td>
<td>Very toxic to aquatic life.</td>
</tr>
</tbody>
</table>

Safety Data Sheet applicable for regions: GB - United Kingdom

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form: Mixture
Product name: CB-X Assay Dye
Product code: 119C
Product group: Blend

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses
No additional information available

1.2.2. Uses advised against
No additional information available

1.3. Details of the supplier of the safety data sheet

Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
63132-1429 Saint Louis - United States
T 800-628-7730 - F 314-991-1504
technical@Gbiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number

Emergency number: Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

<table>
<thead>
<tr>
<th>Country</th>
<th>Organisation/Company</th>
<th>Address</th>
<th>Emergency number</th>
<th>Comment</th>
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<tbody>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Belfast Centre)</td>
<td>Grosvenor Road BT12 6BA Belfast</td>
<td>0344 892 0111</td>
<td></td>
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<tr>
<td></td>
<td>Royal Victoria Hospital</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Birmingham Centre)</td>
<td>Dudley Road B18 7QH Birmingham</td>
<td>0344 892 0111</td>
<td></td>
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<tr>
<td></td>
<td>City Hospital</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Cardiff Centre)</td>
<td>Penarth CF64 2XX Cardiff</td>
<td>0344 892 0111</td>
<td></td>
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<tr>
<td></td>
<td>Gwenswyn Ward, Llandough Hospital</td>
<td></td>
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</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service Edinburgh</td>
<td>Little France Crescent EH16 4SA Edinburgh</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Royal Infirmary of Edinburgh</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>Guy's &amp; St Thomas' Poisons Unit</td>
<td>Avonley Road SE14 5ER London</td>
<td>0870 243 2241</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Medical Toxicology Unit, Guy's &amp; St Thomas' Hospital Trust</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Newcastle Centre)</td>
<td>Claremont Place Newcastle-upon-Tyne NE1 4LP Newcastle</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Regional Drugs and Therapeutics Centre, Wolfson Unit</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]
No labelling applicable

2.3. Other hazards

No additional information available
SECTION 3: Composition/information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deionized water</td>
<td>(CAS-No.) 7732-18-5</td>
<td>&gt;= 80</td>
<td>Not classified</td>
</tr>
<tr>
<td>phosphoric acid, conc=85%</td>
<td>(CAS-No.) 7664-38-2</td>
<td>10 - 50</td>
<td>Skin Corr. 1B, H314</td>
</tr>
<tr>
<td>methanol</td>
<td>(CAS-No.) 67-56-1</td>
<td>2 - 5</td>
<td>Flam. Liq. 2, H225, Acute Tox. 3 (Oral), H301, Acute Tox. 3 (Dermal), H311, Acute Tox. 3 (Inhalation), H331, Acute Tox. 3 (Inhalation:vapour), H331, STOT SE 1, H370</td>
</tr>
<tr>
<td>Coomassie Brilliant Blue G 250 Dye</td>
<td>(CAS-No.) 6104-58-1</td>
<td>&lt; 0.05</td>
<td>Skin Irrit. 2, H315, Eye Irrit. 2, H319, STOT SE 3, H335</td>
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</tbody>
</table>

Specific concentration limits:

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>Specific concentration limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>phosphoric acid, conc=85%</td>
<td>(CAS-No.) 7664-38-2</td>
<td>(10 &lt;=C &lt; 25) Eye Irrit. 2, H319, Skin Irrit. 2, H315</td>
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<tr>
<td>methanol</td>
<td>(CAS-No.) 67-56-1</td>
<td>(C &gt;= 25) Skin Corr. 1B, H314</td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water.
First-aid measures after eye contact : Rinse eyes with water as a precaution.
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

No additional information available

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media


5.2. Special hazards arising from the substance or mixture

Fire hazard : Combustible liquid.
Reactivity in case of fire : Thermal decomposition generates Corrosive vapours.
Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking.
6.1.2. For emergency responders

Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: “Exposure controls/personal protection”.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up: Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Ensure good ventilation of the work station. Wear personal protective equipment. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hygiene measures: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in a well-ventilated place. Keep cool.

Storage temperature: 20 °C

7.3. Specific end use(s)

No additional information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>methanol (67-56-1)</th>
<th>EU</th>
<th>IOELV TWA (mg/m³)</th>
<th>260 mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EU</td>
<td>IOELV TWA (ppm)</td>
<td>200 ppm</td>
</tr>
<tr>
<td></td>
<td>United Kingdom</td>
<td>WEL TWA (mg/m³)</td>
<td>266 mg/m³</td>
</tr>
<tr>
<td></td>
<td>United Kingdom</td>
<td>WEL TWA (ppm)</td>
<td>200 ppm</td>
</tr>
<tr>
<td></td>
<td>United Kingdom</td>
<td>WEL STEL (mg/m³)</td>
<td>333 mg/m³</td>
</tr>
<tr>
<td></td>
<td>United Kingdom</td>
<td>WEL STEL (ppm)</td>
<td>250 ppm</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid

Colour: No data available

Odour: No data available

Odour threshold: No data available
CB-X Assay Dye
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

pH : No data available
Relative evaporation rate (butylacetate=1) : No data available
Melting point : Not applicable
Freezing point : No data available
Boiling point : No data available
Flash point : 65 °C
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Flammability (solid, gas) : Not applicable
Vapour pressure : No data available
Relative vapour density at 20 °C : No data available
Relative density : No data available
Solubility : No data available
Log Pow : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosive properties : No data available
Oxidising properties : No data available
Explosive limits : No data available

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid
Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials
No additional information available

10.6. Hazardous decomposition products
Hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

methanol (67-56-1)
LD50 oral rat : 1187 - 2769 mg/kg bodyweight (BASF test, Rat, Male/female, Weight of evidence)
LD50 dermal rabbit : 17100 mg/kg (Rabbit, Inconclusive, insufficient data)
LC50 inhalation rat (mg/l) : 128.2 mg/l air (BASF test, 4 h, Rat, Male/female, Weight of evidence)

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified

STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
12.1. Toxicity

Ecology - general: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Acute aquatic toxicity: Not classified

Chronic aquatic toxicity: Not classified

<table>
<thead>
<tr>
<th>Substance</th>
<th>LC50 fish 1</th>
<th>EC50 Daphnia 1</th>
<th>ErC50 (algae)</th>
</tr>
</thead>
<tbody>
<tr>
<td>phosphoric acid, conc=85% (7664-38-2)</td>
<td>138 mg/l (Pisces)</td>
<td>18260 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 96 h, Daphnia magna, Semi-static system, Fresh water, Experimental value)</td>
<td>22000 mg/l (OECD 201: Alga, Growth Inhibition Test, 96 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value)</td>
</tr>
<tr>
<td>methanol (67-56-1)</td>
<td>15400 mg/l (EPA 660/3 - 75/009, 96 h, Lepomis macrochirus, Flow-through system, Fresh water, Experimental value)</td>
<td>18260 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 96 h, Daphnia magna, Semi-static system, Fresh water, Experimental value)</td>
<td>22000 mg/l (OECD 201: Alga, Growth Inhibition Test, 96 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value)</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Substance</th>
<th>Persistence and degradability</th>
<th>Biochemical oxygen demand (BOD)</th>
<th>Chemical oxygen demand (COD)</th>
<th>ThOD</th>
<th>BOD (% of ThOD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>phosphoric acid, conc=85% (7664-38-2)</td>
<td>Biodegradability: not applicable.</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>methanol (67-56-1)</td>
<td>Biodegradable in the soil. Readily biodegradable in water.</td>
<td>0.6 - 1.12 g O₂/g substance</td>
<td>1.42 g O₂/g substance</td>
<td>1.5 g O₂/g substance</td>
<td></td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Substance</th>
<th>Bioaccumulative potential</th>
<th>BCF fish 1</th>
<th>Log Pow</th>
<th>Bioaccumulative potential</th>
<th>Log Koc</th>
<th>Ecology - soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>phosphoric acid, conc=85% (7664-38-2)</td>
<td>Does not contain bioaccumulative component(s).</td>
<td>1 - 4.5 (72 h, Cyprinus carpio, Static system, Fresh water, Experimental value)</td>
<td>-0.77 (Experimental value)</td>
<td>Low potential for bioaccumulation (BCF &lt; 500).</td>
<td>-0.89 - -0.21 (log Koc, Calculated value)</td>
<td>Highly mobile in soil.</td>
</tr>
<tr>
<td>methanol (67-56-1)</td>
<td></td>
<td>1 - 4.5 (72 h, Cyprinus carpio, Static system, Fresh water, Experimental value)</td>
<td>-0.77 (Experimental value)</td>
<td>Low potential for bioaccumulation (BCF &lt; 500).</td>
<td>-0.89 - -0.21 (log Koc, Calculated value)</td>
<td>Highly mobile in soil.</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil

<table>
<thead>
<tr>
<th>Substance</th>
<th>Ecology - soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>phosphoric acid, conc=85% (7664-38-2)</td>
<td>No (test)data on mobility of the components available.</td>
</tr>
<tr>
<td>methanol (67-56-1)</td>
<td>0.023 N/m (20 °C)</td>
</tr>
</tbody>
</table>

12.5. Results of PBT and vPvB assessment

Component methanol (67-56-1) This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

No additional information available
SECTION 13: Disposal considerations

13.1. Waste treatment methods

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

<table>
<thead>
<tr>
<th>Mode</th>
<th>UN-No.</th>
<th>Description</th>
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<tbody>
<tr>
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</tr>
<tr>
<td>IMDG</td>
<td>Not regulated</td>
<td></td>
</tr>
<tr>
<td>IATA</td>
<td>Not regulated</td>
<td></td>
</tr>
<tr>
<td>ADN</td>
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<td></td>
</tr>
<tr>
<td>RID</td>
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<td></td>
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</table>

14.2. UN proper shipping name

<table>
<thead>
<tr>
<th>Mode</th>
<th>Proper Shipping Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADR</td>
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</tr>
<tr>
<td>IMDG</td>
<td>Not regulated</td>
<td></td>
</tr>
<tr>
<td>IATA</td>
<td>Not regulated</td>
<td></td>
</tr>
<tr>
<td>ADN</td>
<td>Not regulated</td>
<td></td>
</tr>
<tr>
<td>RID</td>
<td>Not regulated</td>
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</table>

14.3. Transport hazard class(es)

<table>
<thead>
<tr>
<th>Mode</th>
<th>Hazard class(es)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
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<td>ADR</td>
<td>Not regulated</td>
<td></td>
</tr>
<tr>
<td>IMDG</td>
<td>Not regulated</td>
<td></td>
</tr>
<tr>
<td>IATA</td>
<td>Not regulated</td>
<td></td>
</tr>
<tr>
<td>ADN</td>
<td>Not regulated</td>
<td></td>
</tr>
<tr>
<td>RID</td>
<td>Not regulated</td>
<td></td>
</tr>
</tbody>
</table>

14.4. Packing group

<table>
<thead>
<tr>
<th>Mode</th>
<th>Packing group</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADR</td>
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</tr>
<tr>
<td>IMDG</td>
<td>Not regulated</td>
<td></td>
</tr>
<tr>
<td>IATA</td>
<td>Not regulated</td>
<td></td>
</tr>
<tr>
<td>ADN</td>
<td>Not regulated</td>
<td></td>
</tr>
<tr>
<td>RID</td>
<td>Not regulated</td>
<td></td>
</tr>
</tbody>
</table>

14.5. Environmental hazards

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dangerous for the environment</td>
<td>No</td>
</tr>
<tr>
<td>Marine pollutant</td>
<td>No</td>
</tr>
<tr>
<td>Other information</td>
<td>No supplementary information available</td>
</tr>
</tbody>
</table>

14.6. Special precautions for user

- Overland transport
  Not regulated

- Transport by sea
  Not regulated

- Air transport
  Not regulated

- Inland waterway transport
  Not regulated
CB-X Assay Dye
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable

SECTION 15: Regulatory information
15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
15.1.1. EU-Regulations
Contains no REACH substances with Annex XVII restrictions
Contains no substance on the REACH candidate list
Contains no REACH Annex XIV substances

15.1.2. National regulations
No additional information available

15.2. Chemical safety assessment
No chemical safety assessment has been carried out

SECTION 16: Other information
Full text of H- and EUH-statements:

Acute Tox. 3 (Dermal) Acute toxicity (dermal), Category 3
Acute Tox. 3 (Inhalation) Acute toxicity (inhal.), Category 3
Acute Tox. 3 (Inhalation: vapour) Acute toxicity (inhalation: vapour) Category 3
Acute Tox. 3 (Oral) Acute toxicity (oral), Category 3
Eye Irrit. 2 Serious eye damage/eye irritation, Category 2
Flam. Liq. 2 Flammable liquids, Category 2
Skin Corr. 1B Skin corrosion/irritation, Category 1B
Skin Irrit. 2 Skin corrosion/irritation, Category 2
STOT SE 1 Specific target organ toxicity — single exposure, Category 1
STOT SE 3 Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H225 Highly flammable liquid and vapour.
H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H370 Causes damage to organs.

Safety Data Sheet applicable for regions : GB - United Kingdom

SDS EU (REACH Annex II)
This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should therefore be construed as guaranteeing any specific property of the product.
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Product name : CB-X Solubilization Buffer I
Product code : 127C
Product group : Blend

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Main use category : Research purposes

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
63132-1429 Saint Louis - United States
T 800-628-7730 - F 314-991-1504
technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number

Emergency number : Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

<table>
<thead>
<tr>
<th>Country</th>
<th>Organisation/Company</th>
<th>Address</th>
<th>Emergency number</th>
<th>Comment</th>
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</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Belfast Centre)</td>
<td>Grosvenor Road BT12 6BA Belfast</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Birmingham Centre)</td>
<td>Dudley Road B18 7QH Birmingham</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Cardiff Centre)</td>
<td>Penarth CF64 2XX Cardiff</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service Edinburgh</td>
<td>Little France Crescent EH16 4SA Edinburgh</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>Guy's &amp; St Thomas' Poisons Unit Medical Toxicology Unit, Guy's &amp; St Thomas' Hospital Trust</td>
<td>Avonley Road SE14 5ER London</td>
<td>0870 243 2241</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Newcastle Centre)</td>
<td>Claremont Place Newcastle-upon-Tyne NE1 4LP Newcastle</td>
<td>0344 892 0111</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

- Acute toxicity (oral), Category 3 : H301
- Skin corrosion/irritation, Category 1B : H314
- Hazardous to the aquatic environment — Acute Hazard, Category 1 : H400
- Hazardous to the aquatic environment — Chronic Hazard, Category 3 : H412

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Toxic if swallowed. Causes severe skin burns and eye damage. Very toxic to aquatic life. Harmful to aquatic life with long lasting effects.
CB-X Solubilization Buffer I
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP):

- GHS05
- GHS06
- GHS09

CLP Signal word: Danger
Hazardous ingredients: sodium hydroxide

Hazard statements (CLP):

- H301 - Toxic if swallowed.
- H314 - Causes severe skin burns and eye damage.
- H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements (CLP):

- P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
- P264 - Wash hands, forearms and face thoroughly after handling.
- P270 - Do not eat, drink or smoke when using this product.
- P273 - Avoid release to the environment.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.
- P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310 - Immediately call a POISON CENTER or doctor.
- P321 - Specific treatment (see supplemental first aid instruction on this label).
- P330 - Rinse mouth.
- P391 - Collect spillage.
- P405 - Store locked up.
- P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deonized water</td>
<td>(CAS-No.) 7732-18-5</td>
<td>&gt; 88</td>
<td>Not classified</td>
</tr>
<tr>
<td>potassium sodium tartrate,tetrahydrate</td>
<td>(CAS-No.) 6381-59-5</td>
<td>&lt; 5</td>
<td>Not classified</td>
</tr>
<tr>
<td>(EC-No.) 215-185-5</td>
<td>(EC Index-No.) 011-002-00-6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>copper(II) sulfate, pentahydrate</td>
<td>(CAS-No.) 7758-99-8</td>
<td>2 - 5</td>
<td>Acute Tox. 3 (Oral), H301 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Eye Irrit. 2, H319 Aquatic Acute 1, H400 Aquatic Chronic 1, H410</td>
</tr>
<tr>
<td>(EC-No.) 231-847-6</td>
<td>(EC Index-No.) 029-004-00-0</td>
<td></td>
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</tr>
</tbody>
</table>

Specific concentration limits:

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>Specific concentration limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>sodium hydroxide</td>
<td>(CAS-No.) 1310-73-2</td>
<td>(0.5 &lt;=C &lt; 2) Eye Irrit. 2, H319</td>
</tr>
<tr>
<td>(EC-No.) 215-185-5</td>
<td>(EC Index-No.) 011-002-00-6</td>
<td>(0.5 &lt;=C &lt; 2) Skin Irrit. 2, H315</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(2 &lt;=C &lt; 5) Skin Corr. 1B, H314</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(C &gt;= 5) Skin Corr. 1A, H314</td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16
SECTION 4: First aid measures

4.1. Description of first aid measures


First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing. Remove the victim into fresh air. Respiratory problems: consult a doctor/hospital service.

First-aid measures after skin contact: Wash immediately with lots of water. Do not apply (chemical) neutralizing agents. Take victim to a doctor if irritation persists. Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.

First-aid measures after eye contact: Rinse immediately with plenty of water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.


4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation: AFTER INHALATION OF DUST/MIST: Dry/sore throat. Coughing. ON HEATING: Metal fume fever.

Symptoms/effects after skin contact: Tingling/irritation of the skin. Irritation. Burns.

Symptoms/effects after eye contact: Irritation of the eye tissue. Serious damage to eyes.


4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media


5.2. Special hazards arising from the substance or mixture

Fire hazard: DIRECT FIRE HAZARD: Non combustible. INDIRECT FIRE HAZARD: Reactions involving a fire hazard: see "Reactivity Hazard".

Explosion hazard: DIRECT EXPLOSION HAZARD: No data available on direct explosion hazard. INDIRECT EXPLOSION HAZARD: No data available on indirect explosion hazard.

Reactivity in case of fire: Reacts on exposure to water (moisture) with (some) metals. On burning: release of toxic and corrosive gases/vapours (sulphur oxides) and formation of metallic fumes. Reacts violently with (strong) reducers. Thermal decomposition generates: Corrosive vapours.

Hazardous decomposition products in case of fire: Toxic fumes may be released.

5.3. Advice for firefighters

Precautionary measures fire: Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.

Firefighting instructions: Dilute toxic gases with water spray. Take account of environmentally hazardous firefighting water. Use water moderately and if possible collect or contain it.


SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

### Emergency procedures

### Measures in case of dust release
In case of dust production: keep upwind. Dust production: have neighbourhood close doors and windows.

### 6.1.2 For emergency responders
Protective equipment
Do not attempt to take action without suitable protective equipment. For further information refer to section 8: “Exposure controls/personal protection”.

### 6.2 Environmental precautions
Avoid release to the environment. Prevent soil and water pollution. Prevent spreading in sewers.

### 6.3 Methods and material for containment and cleaning up
For containment
Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Dam up the solid spill. Knock down/dilute dust cloud with water spray. Collect spillage.

Methods for cleaning up
Take up liquid spill into absorbent material. Prevent dispersion by covering with dry sand/earth. Scoop solid spill into closing containers. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

Other information
Dispose of materials or solid residues at an authorized site.

### 6.4 Reference to other sections
For further information refer to section 13.

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling
Precautions for safe handling
Ensure good ventilation of the work station. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Avoid raising dust. Keep away from naked flames/heat. Observe strict hygiene. Keep container tightly closed. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray. Wear personal protective equipment.

Hygiene measures
Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

#### 7.2 Conditions for safe storage, including any incompatibilities
Storage conditions
Store locked up. Store in a well-ventilated place. Keep cool.

Heat and ignition sources
KEEP SUBSTANCE AWAY FROM: heat sources.

Information on mixed storage
KEEP SUBSTANCE AWAY FROM: reducing agents. (strong) bases. water/moisture.

Storage area
Store in a dry area. Keep container in a well-ventilated place. Meet the legal requirements. Keep out of direct sunlight.

Special rules on packaging
SPECIAL REQUIREMENTS: hermetical. watertight. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

Packaging materials
SUITABLE MATERIAL: No data available. MATERIAL TO AVOID: No data available.

#### 7.3 Specific end use(s)
No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

<table>
<thead>
<tr>
<th>sodium hydroxide (1310-73-2)</th>
<th>United Kingdom</th>
<th>WEL STEL (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2 mg/m³</td>
</tr>
</tbody>
</table>

#### 8.2 Exposure controls

**Appropriate engineering controls:**
Ensure good ventilation of the work station.

**Materials for protective clothing:**
GIVE GOOD RESISTANCE: butyl rubber. PVC. viton

**Hand protection:**
Gloves

**Eye protection:**
Face shield. In case of dust production: protective goggles. Safety glasses
Skin and body protection:
Protective clothing. In case of dust production: head/neck protection. In case of dust production: dustproof clothing

Respiratory protection:
Dust production: dust mask with filter type P2. Dust production: dust mask with filter type P3

Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>Blue</td>
</tr>
<tr>
<td>Odour</td>
<td>Odourless</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water. Soluble in methanol. Soluble in glycerol.</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2. Other information

VOC content: Not applicable
Other properties: Hygroscopic. Substance has acid reaction.

SECTION 10: Stability and reactivity

10.1. Reactivity
React on exposure to water (moisture) with (some) metals. On burning: release of toxic and corrosive gases/vapours (sulphur oxides) and formation of metallic fumes. Reacts exothermically with (some) compounds: (increased) risk of fire. Reacts violently with (strong) reducers.

10.2. Chemical stability
Hygroscopic.

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid
None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials
No additional information available

10.6. Hazardous decomposition products
Hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity (oral): Oral: Toxic if swallowed.
# CB-X Solubilization Buffer I  
## Safety Data Sheet  
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830  

### Acute toxicity (dermal)  
: Not classified  

### Acute toxicity (inhalation)  
: Not classified  

<table>
<thead>
<tr>
<th><strong>CB-X Solubilization Buffer I</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>300 mg/kg (Rat)</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>&gt; 2000 mg/kg (Rabbit)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>copper(II) sulfate, pentahydrate (7758-99-8)</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>300 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Experimental value; 482 mg/kg bodyweight; Rat)</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>&gt; 2000 mg/kg (Rabbit; Literature study; OECD 402: Acute Dermal Toxicity)</td>
</tr>
</tbody>
</table>

### Skin corrosion/irritation  
: Causes severe skin burns and eye damage.  

### Serious eye damage/irritation  
: Serious eye damage, category 1, implicit  

### Respiratory or skin sensitisation  
: Not classified  

### Germ cell mutagenicity  
: Not classified  

### Carcinogenicity  
: Not classified  

### Reproductive toxicity  
: Not classified  

### STOT-single exposure  
: Not classified  

### STOT-repeated exposure  
: Not classified  

### Aspiration hazard  
: Not classified  

## SECTION 12: Ecological information  

### 12.1 Toxicity  

#### Ecology - general  
: Dangerous for the environment. Very toxic to aquatic life. Harmful to aquatic life with long lasting effects.  

#### Ecology - air  
: TA-Luft Klasse 5.2.2/III.  

#### Ecology - water  

#### Acute aquatic toxicity  
: Very toxic to aquatic life.  

#### Chronic aquatic toxicity  
: Harmful to aquatic life with long lasting effects.  

<table>
<thead>
<tr>
<th><strong>CB-X Solubilization Buffer I</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>1.5 mg/l (24 h; Lepomis macrochirus; TOXICITY TEST)</td>
</tr>
<tr>
<td>LC50 fish 2</td>
<td>0.17 mg/l (24 h; Salmo gairdneri (Oncorhynchus mykiss)</td>
</tr>
<tr>
<td>TLM fish 1</td>
<td>3.8 ppm (24 h; Salmo gairdneri (Oncorhynchus mykiss); Fresh water)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>sodium hydroxide (1310-73-2)</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>45.4 mg/l (Other, 96 h, Salmo gairdneri, Static system, Fresh water, Experimental value)</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>40.4 mg/l (Other, 48 h, Ceriodaphnia sp., Experimental value)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>copper(II) sulfate, pentahydrate (7758-99-8)</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Threshold limit algae 2</td>
<td>0.368 mg/l (ErC50; OECD 201: Alga, Growth Inhibition Test; 72 h; Pseudokirchneriella subcapitata; Static system; Fresh water; Read-across)</td>
</tr>
</tbody>
</table>

### 12.2 Persistence and degradability  

#### CB-X Solubilization Buffer I  

<table>
<thead>
<tr>
<th><strong>Biochemical oxygen demand (BOD)</strong></th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chemical oxygen demand (COD)</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>ThOD</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>BOD (% of ThOD)</strong></td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>sodium hydroxide (1310-73-2)</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Persistence and degradability</strong></td>
<td>Biodegradability: not applicable.</td>
</tr>
<tr>
<td><strong>Biochemical oxygen demand (BOD)</strong></td>
<td>Not applicable (inorganic)</td>
</tr>
<tr>
<td><strong>Chemical oxygen demand (COD)</strong></td>
<td>Not applicable (inorganic)</td>
</tr>
<tr>
<td><strong>ThOD</strong></td>
<td>Not applicable (inorganic)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>potassium sodium tartrate, tetrahydrate (6381-59-5)</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Persistence and degradability</strong></td>
<td>Biodegradability in water: no data available.</td>
</tr>
</tbody>
</table>
12.3. Bioaccumulative potential

CB-X Solubilization Buffer I

Bioaccumulative potential: Bioaccumable.

sodium hydroxide (1310-73-2)

Bioaccumulative potential: Not bioaccumulative.

potassium sodium tartrate,tetrahydrate (6381-59-5)

Bioaccumulative potential: No bioaccumulation data available.

copper(II) sulfate, pentahydrate (7758-99-8)

Bioaccumulative potential: Bioaccumable.

12.4. Mobility in soil

CB-X Solubilization Buffer I

Ecology - soil: Toxic to flora.

sodium hydroxide (1310-73-2)

Ecology - soil: No (test)data on mobility of the substance available.

copper(II) sulfate, pentahydrate (7758-99-8)

Ecology - soil: Toxic to flora.

12.5. Results of PBT and vPvB assessment

Component

sodium hydroxide (1310-73-2)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods


Product/Packaging disposal recommendations: Remove waste in accordance with local and/or national regulations. Recycle/reuse. Precipitate/make insoluble. Remove to an authorized dump (Class I). Do not discharge into the sewer.

Additional information: LWCA (the Netherlands): KGA category 05. Hazardous waste according to Directive 2008/98/EC.

European List of Waste (LoW) code: 06 03 13* - solid salts and solutions containing heavy metals
03 02 04* - inorganic wood preservatives

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR) : Not regulated
UN-No. (IMDG) : Not regulated
UN-No. (IATA) : Not regulated
UN-No. (ADN) : Not regulated
UN-No. (RID) : Not regulated

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not regulated
Proper Shipping Name (IMDG) : Not regulated
Proper Shipping Name (IATA) : Not regulated
Proper Shipping Name (ADN) : Not regulated
Proper Shipping Name (RID) : Not regulated

14.3. Transport hazard class(es)

ADR
CB-X Solubilization Buffer I
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Transport hazard class(es) (ADR) : Not regulated
IMDG
Transport hazard class(es) (IMDG) : Not regulated
IATA
Transport hazard class(es) (IATA) : Not regulated
ADN
Transport hazard class(es) (ADN) : Not regulated
RID
Transport hazard class(es) (RID) : Not regulated

14.4. Packing group
Packing group (ADR) : Not regulated
Packing group (IMDG) : Not regulated
Packing group (IATA) : Not regulated
Packing group (ADN) : Not regulated
Packing group (RID) : Not regulated

14.5. Environmental hazards
Dangerous for the environment : Yes
Marine pollutant : Yes
Other information : No supplementary information available

14.6. Special precautions for user
- Overland transport
Not regulated
- Transport by sea
Not regulated
- Air transport
Not regulated
- Inland waterway transport
Not regulated
- Rail transport
Not regulated

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable

SECTION 15: Regulatory information
15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
15.1.1. EU-Regulations
Contains no REACH substances with Annex XVII restrictions
Contains no substance on the REACH candidate list
Contains no REACH Annex XIV substances
VOC content : Not applicable

15.1.2. National regulations
No additional information available

15.2. Chemical safety assessment
No chemical safety assessment has been carried out
## SECTION 16: Other information

Full text of H- and EUH-statements:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Tox. 3 (Oral)</td>
<td>Acute toxicity (oral), Category 3</td>
</tr>
<tr>
<td>Aquatic Acute 1</td>
<td>Hazardous to the aquatic environment — Acute Hazard, Category 1</td>
</tr>
<tr>
<td>Aquatic Chronic 1</td>
<td>Hazardous to the aquatic environment — Chronic Hazard, Category 1</td>
</tr>
<tr>
<td>Eye Irrit. 2</td>
<td>Serious eye damage/eye irritation, Category 2</td>
</tr>
<tr>
<td>Met. Corr. 1</td>
<td>Corrosive to metals, Category 1</td>
</tr>
<tr>
<td>Skin Corr. 1A</td>
<td>Skin corrosion/irritation, Category 1A</td>
</tr>
<tr>
<td>Skin Irrit. 2</td>
<td>Skin corrosion/irritation, Category 2</td>
</tr>
<tr>
<td>H290</td>
<td>May be corrosive to metals.</td>
</tr>
<tr>
<td>H301</td>
<td>Toxic if swallowed.</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>H400</td>
<td>Very toxic to aquatic life.</td>
</tr>
<tr>
<td>H410</td>
<td>Very toxic to aquatic life with long lasting effects.</td>
</tr>
<tr>
<td>H412</td>
<td>Harmful to aquatic life with long lasting effects.</td>
</tr>
</tbody>
</table>

Safety Data Sheet applicable for regions: GB - United Kingdom

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form: Mixture
Product name: CB-X Solubilization Buffer II
Product code: 133C
Product group: Blend

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses
No additional information available

1.2.2. Uses advised against
No additional information available

1.3. Details of the supplier of the safety data sheet
Geno Technology, Inc./G-Biosciences
9800 Page Avenue
63132-1429 Saint Louis - United States
T 800-628-7730 - F 314-991-1504
technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number
Emergency number: Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Not classified

Adverse physicochemical, human health and environmental effects
To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]
No labelling applicable

2.3. Other hazards
No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deionized water</td>
<td>(CAS-No.) 7732-18-5</td>
<td>&gt; 98</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact: Wash skin with plenty of water.
First-aid measures after eye contact: Rinse eyes with water as a precaution.
First-aid measures after ingestion: Call a poison center or a doctor if you feel unwell.
## 4.2. Most important symptoms and effects, both acute and delayed

No additional information available

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media


#### 5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire: Toxic fumes may be released.

#### 5.3. Advice for firefighters

Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

Emergency procedures: Ventilate spillage area.

##### 6.1.2. For emergency responders

Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

#### 6.2. Environmental precautions

Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up: Take up liquid spill into absorbent material.

Other information: Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling: Ensure good ventilation of the work station. Wear personal protective equipment.

Hygiene measures: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in a well-ventilated place. Keep cool.

#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

No additional information available

#### 8.2. Exposure controls

**Appropriate engineering controls:**

Ensure good ventilation of the work station.

**Hand protection:**

Protective gloves

**Eye protection:**

Safety glasses

**Skin and body protection:**

Wear suitable protective clothing
Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state: Liquid
- Colour: No data available
- Odour: No data available
- Odour threshold: No data available
- pH: No data available
- Relative evaporation rate (butylacetate=1): No data available
- Melting point: Not applicable
- Freezing point: No data available
- Boiling point: No data available
- Flash point: No data available
- Auto-ignition temperature: No data available
- Decomposition temperature: No data available
- Flammability (solid, gas): Not applicable
- Vapour pressure: No data available
- Relative vapour density at 20 °C: No data available
- Relative density: No data available
- Solubility: No data available
- Log Pow: No data available
- Viscosity, kinematic: No data available
- Viscosity, dynamic: No data available
- Explosive properties: No data available
- Oxidising properties: No data available
- Explosive limits: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid
None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials
No additional information available

10.6. Hazardous decomposition products
Hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

- Acute toxicity (oral): Not classified
- Acute toxicity (dermal): Not classified
- Acute toxicity (inhalation): Not classified
- Skin corrosion/irritation: Not classified
- Serious eye damage/irritation: Not classified
CB-X Solubilization Buffer II
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

<table>
<thead>
<tr>
<th>Category</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory or skin sensitisation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>STOT-single exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>STOT-repeated exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

**SECTION 12: Ecological information**

12.1. **Toxicity**

Ecology - general: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Acute aquatic toxicity: Not classified

Chronic aquatic toxicity: Not classified

12.2. **Persistence and degradability**

No additional information available

12.3. **Bioaccumulative potential**

No additional information available

12.4. **Mobility in soil**

No additional information available

12.5. **Results of PBT and vPvB assessment**

No additional information available

12.6. **Other adverse effects**

No additional information available

**SECTION 13: Disposal considerations**

13.1. **Waste treatment methods**


**SECTION 14: Transport information**

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. **UN number**

| UN-No. (ADR)                          | Not regulated |
| UN-No. (IMDG)                         | Not regulated |
| UN-No. (IATA)                         | Not regulated |
| UN-No. (ADN)                          | Not regulated |
| UN-No. (RID)                          | Not regulated |

14.2. **UN proper shipping name**

| Proper Shipping Name (ADR)             | Not regulated |
| Proper Shipping Name (IMDG)            | Not regulated |
| Proper Shipping Name (IATA)            | Not regulated |
| Proper Shipping Name (ADN)             | Not regulated |
| Proper Shipping Name (RID)             | Not regulated |

14.3. **Transport hazard class(es)**

**ADR**

Transport hazard class(es) (ADR): Not regulated

**IMDG**

Transport hazard class(es) (IMDG): Not regulated

**IATA**

Transport hazard class(es) (IATA): Not regulated
CB-X Solubilization Buffer II
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

ADN
Transport hazard class(es) (ADN) : Not regulated

RID
Transport hazard class(es) (RID) : Not regulated

14.4. Packing group
Packing group (ADR) : Not regulated
Packing group (IMDG) : Not regulated
Packing group (IATA) : Not regulated
Packing group (ADN) : Not regulated
Packing group (RID) : Not regulated

14.5. Environmental hazards
Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user
- Overland transport
  Not regulated

- Transport by sea
  Not regulated

- Air transport
  Not regulated

- Inland waterway transport
  Not regulated

- Rail transport
  Not regulated

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable

SECTION 15: Regulatory information
15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
15.1.1. EU-Regulations
Contains no REACH substances with Annex XVII restrictions
Contains no substance on the REACH candidate list
Contains no REACH Annex XIV substances

15.1.2. National regulations
No additional information available

15.2. Chemical safety assessment
No chemical safety assessment has been carried out

SECTION 16: Other information

Safety Data Sheet applicable for regions : GB - United Kingdom

SDS EU (REACH Annex II)
This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product