


**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

- 1.1 Product identifier:** KC-04 Caspase Assay Kit Reagent A
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**
Relevant uses: Research use. For professional user only.
Uses advised against: All uses not specified in this section or in section 7.3
- 1.3 Details of the supplier of the safety data sheet:**
BIOQUOCHEM S.L.
Edificio CEEL. Parque Tecnológico de Asturias
33428 Llanera - Asturias - España
Phone.: 985269292
hmuno@bioquochem.com
http://www.bqckit.com
- 1.4 Emergency telephone number:** +34985269292 (9:00-19:00 UTC+1h; M-F)

SECTION 2: HAZARDS IDENTIFICATION

- 2.1 Classification of the substance or mixture:**
CLP Regulation (EC) No 1272/2008:
Classification of this product has been carried out in accordance with CLP Regulation (EC) No 1272/2008.
Repr. 1A: Reproductive toxicity, Category 1A, H360
- 2.2 Label elements:**
CLP Regulation (EC) No 1272/2008:
Danger

Hazard statements:
Repr. 1A: H360 - May damage fertility or the unborn child
Precautionary statements:
P201: Obtain special instructions before use
P202: Do not handle until all safety precautions have been read and understood
P280: Wear protective gloves/protective clothing/eye protection/face protection
P308+P313: IF exposed or concerned: Get medical advice/attention
P405: Store locked up
P501: Dispose of contents and / or containers in accordance with regulations on hazardous waste or packaging and packaging waste respectively
Substances that contribute to the classification
CHAPS
Additional Labelling (Annex XVII, REACH):
Restricted to professional users
- 2.3 Other hazards:**
Product fails to meet PBT/vPvB criteria

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

- 3.1 Substance:**
Non-applicable
- 3.2 Mixture:**
Chemical description: Aqueous solution of organic and inorganic compounds, glycol-ethers, surfactants, enzymes and colourants.
Components:
In accordance with Annex II of Regulation (EC) No 1907/2006 (point 3), the product contains:



SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS (continued)

| Identification | Chemical name/Classification | | Concentration |
|---|--|--|--------------------------------|
| CAS: 75621-03-3 EC: 200-679-5 Index: 616-001-00-X REACH Non-applicable | CHAPS ¹ Regulation 1272/2008 Repr. 1A: H360 - Danger | | Self-classified 2,5 - <10 % |

¹ Substances presenting a health or environmental hazard which meet criteria laid down in Regulation (EU) No. 2015/830

To obtain more information on the risk of the substances consult sections 8, 11, 12, 15 and 16.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures:

The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort, showing the SDS of this product.

By inhalation:

This product does not contain substances classified as hazardous for inhalation, however, in case of symptoms of intoxication remove the person affected from the exposure area and provide with fresh air. Seek medical attention if the symptoms get worse or persist.

By skin contact:

In case of contact it is recommended to clean the affected area thoroughly with water and neutral soap. In case of changes to the skin (stinging, redness, rashes, blisters,...), seek medical advice with this Safety data Sheet

By eye contact:

This product does not contain substances classified as hazardous for eye contact. Rinse eyes thoroughly for at least 15 minutes with lukewarm water, ensuring that the person affected does not rub or close their eyes.

By ingestion/aspiration:

In case of consumption, seek immediate medical assistance showing the SDS for the product.

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

Acute and delayed effects are indicated in sections 2 and 11.

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

Non-applicable

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media:

Product is non-flammable under normal conditions of storage, handling and use. In the case of combustion as a result of improper handling, storage or use preferably use polyvalent powder extinguishers (ABC powder), in accordance with the Regulation on fire protection systems. IT IS NOT RECOMMENDED to use tap water as an extinguishing agent.

5.2 Special hazards arising from the substance or mixture:

As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk.

5.3 Advice for firefighters:

Depending on the magnitude of the fire it may be necessary to use full protective clothing and self-contained breathing apparatus (SCBA). Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...) in accordance with Directive 89/654/EC.

Additional provisions:

Act in accordance with the Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. Eliminate all sources of ignition. In case of fire, cool the storage containers and tanks for products susceptible to combustion, explosion or BLEVE as a result of high temperatures. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

Isolate leaks provided that there is no additional risk for the people performing this task. Personal protection equipment must be used against potential contact with the spilt product (See section 8). Evacuate the area and keep out those who do not have protection.

6.2 Environmental precautions:

This product is not classified as hazardous to the environment. Keep product away from drains, surface and ground water.



SECTION 6: ACCIDENTAL RELEASE MEASURES (continued)

6.3 Methods and material for containment and cleaning up:

It is recommended:

Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.

6.4 Reference to other sections:

See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:

A.- Precautions for safe manipulation

Comply with the current legislation concerning the prevention of industrial risks. Keep containers hermetically sealed. Control spills and residues, destroying them with safe methods (section 6). Avoid leakages from the container. Maintain order and cleanliness where dangerous products are used.

B.- Technical recommendations for the prevention of fires and explosions

Product is non-flammable under normal conditions of storage, handling and use. It is recommended to transfer at slow speeds to avoid the generation of electrostatic charges that can affect flammable products. Consult section 10 for information on conditions and materials that should be avoided.

C.- Technical recommendations to prevent ergonomic and toxicological risks

PREGNANT WOMEN SHOULD NOT BE EXPOSED TO THIS PRODUCT. Transfer in designated areas that comply with the necessary safety conditions (emergency showers and eyewash stations in close proximity), using personal protection equipment, especially on the hands and face (See section 8). Limit manual transfers to small amounts only. Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

D.- Technical recommendations to prevent environmental risks

It is recommended to have absorbent material available at close proximity to the product (See subsection 6.3)

7.2 Conditions for safe storage, including any incompatibilities:

A.- Technical measures for storage

| | |
|----------------|----------|
| Minimum Temp.: | 5 °C |
| Maximum Temp.: | 30 °C |
| Maximum time: | 6 Months |

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

7.3 Specific end use(s):

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters:

Substances whose occupational exposure limits have to be monitored in the work environment

There are no occupational exposure limits for the substances contained in the product

DNEL (Workers):

Non-applicable

DNEL (General population):

Non-applicable

PNEC:

Non-applicable

8.2 Exposure controls:

A.- General security and hygiene measures in the work place





SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)



As a preventative measure it is recommended to use basic Personal Protective Equipment, with the corresponding <<CE marking>> in accordance with Directive 89/686/EC. For more information on Personal Protective Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For more information see subsection 7.1.

All information contained herein is a recommendation which needs some specification from the labour risk prevention services as it is not known whether the company has additional measures at its disposal.

B.- Respiratory protection



| Pictogram | PPE | Labelling | CEN Standard | Remarks |
|---|-----------------------------------|--|---------------------|--|
|  Mandatory respiratory tract protection | Filter mask for gases and vapours |  CAT III | EN 405:2001+A1:2009 | Replace when there is a taste or smell of the contaminant inside the face mask. If the contaminant comes with warnings it is recommended to use isolation equipment. |

C.- Specific protection for the hands





| Pictogram | PPE | Labelling | CEN Standard | Remarks |
|--|---|--|---|--|
|  Mandatory hand protection | NON-disposable chemical protective gloves |  CAT III | EN 374-1:2003 EN 374-3:2003/AC:2006 EN 420:2003+A1:2009 | The Breakthrough Time indicated by the manufacturer must exceed the period during which the product is being used. Do not use protective creams after the product has come into contact with skin. |

"As the product is a mixture of several substances, the resistance of the glove material can not be predicted in advance with total reliability and has therefore to be checked prior to the application"



D.- Ocular and facial protection

| Pictogram | PPE | Labelling | CEN Standard | Remarks |
|--|-----------|---|---|---|
|  Mandatory face protection | Face mask |  CAT II | EN 166:2001 EN 167:2001 EN 168:2001 EN ISO 4007:2012 | Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing. |

E.- Body protection

| Pictogram | PPE | Labelling | CEN Standard | Remarks |
|---|---|--|--|---|
|  Mandatory complete body protection | Disposable clothing for protection against chemical risks |  CAT III | EN 13034:2005+A1:2009 EN 168:2001 EN ISO 13982-1:2004/A1:2010 EN ISO 6529:2001 EN ISO 6530:2005 EN 464:1994 | For professional use only. Clean periodically according to the manufacturer's instructions. |
|  Mandatory foot protection | Safety footwear for protection against chemical risk |  CAT III | EN ISO 20345:2011 EN 13832-1:2006 | Replace boots at any sign of deterioration. |

F.- Additional emergency measures

| Emergency measure | Standards | Emergency measure | Standards |
|---|--------------------------------|--|-------------------------------|
|  Emergency shower | ANSI Z358-1 ISO 3864-1:2002 |  Eyewash stations | DIN 12 899 ISO 3864-1:2002 |

Environmental exposure controls:

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see subsection 7.1.D

Volatile organic compounds:

With regard to Directive 2010/75/EU, this product has the following characteristics:

| | |
|---------------------------|-----------------------------|
| V.O.C. (Supply): | 0 % weight |
| V.O.C. density at 20 °C: | 0 kg/m ³ (0 g/L) |
| Average carbon number: | Non-applicable |
| Average molecular weight: | Non-applicable |



SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

For complete information see the product datasheet.

Appearance:

| | |
|--------------------------|------------------|
| Physical state at 20 °C: | Liquid |
| Appearance: | Not available |
| Colour: | Not available |
| Odour: | Not available |
| Odour threshold: | Non-applicable * |

Volatility:

| | |
|--|----------------------|
| Boiling point at atmospheric pressure: | Non-applicable * |
| Vapour pressure at 20 °C: | Non-applicable * |
| Vapour pressure at 50 °C: | <300000 Pa (300 kPa) |
| Evaporation rate at 20 °C: | Non-applicable * |

Product description:

| | |
|--|------------------------|
| Density at 20 °C: | 1068 kg/m ³ |
| Relative density at 20 °C: | 1,068 |
| Dynamic viscosity at 20 °C: | Non-applicable * |
| Kinematic viscosity at 20 °C: | Non-applicable * |
| Kinematic viscosity at 40 °C: | Non-applicable * |
| Concentration: | Non-applicable * |
| pH: | Non-applicable * |
| Vapour density at 20 °C: | Non-applicable * |
| Partition coefficient n-octanol/water 20 °C: | Non-applicable * |
| Solubility in water at 20 °C: | Non-applicable * |
| Solubility properties: | Non-applicable * |
| Decomposition temperature: | Non-applicable * |
| Melting point/freezing point: | Non-applicable * |
| Explosive properties: | Non-applicable * |
| Oxidising properties: | Non-applicable * |

Flammability:

| | |
|----------------------------|------------------------|
| Flash Point: | Non Flammable (>60 °C) |
| Flammability (solid, gas): | Non-applicable * |
| Autoignition temperature: | Non-applicable * |
| Lower flammability limit: | Non-applicable * |
| Upper flammability limit: | Non-applicable * |

Explosive:

| | |
|------------------------|------------------|
| Lower explosive limit: | Non-applicable * |
| Upper explosive limit: | Non-applicable * |

9.2 Other information:

| | |
|---------------------------|------------------|
| Surface tension at 20 °C: | Non-applicable * |
| Refraction index: | Non-applicable * |

*Not relevant due to the nature of the product, not providing information property of its hazards.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:



SECTION 10: STABILITY AND REACTIVITY (continued)

No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7.

10.2 Chemical stability:

Chemically stable under the conditions of storage, handling and use.

10.3 Possibility of hazardous reactions:

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

10.4 Conditions to avoid:

Applicable for handling and storage at room temperature:

| Shock and friction | Contact with air | Increase in temperature | Sunlight | Humidity |
|--------------------|------------------|-------------------------|----------------|----------------|
| Not applicable | Not applicable | Not applicable | Not applicable | Not applicable |

10.5 Incompatible materials:

| Acids | Water | Combustive materials | Combustible materials | Others |
|--------------------|----------------|----------------------|-----------------------|-------------------------------|
| Avoid strong acids | Not applicable | Not applicable | Not applicable | Avoid alkalis or strong bases |

10.6 Hazardous decomposition products:

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO₂), carbon monoxide and other organic compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

The experimental information related to the toxicological properties of the product itself is not available

Dangerous health implications:

In case of exposure that is repetitive, prolonged or at concentrations higher than the recommended occupational exposure limits, adverse effects on health may result, depending on the means of exposure:

A.- Ingestion (acute effect):

- Acute toxicity : Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for consumption. For more information see section 3.
- Corrosivity/Irritability: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

B- Inhalation (acute effect):

- Acute toxicity : Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for inhalation. For more information see section 3.
- Corrosivity/Irritability: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

C- Contact with the skin and the eyes (acute effect):

- Contact with the skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for skin contact. For more information see section 3.
- Contact with the eyes: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):

- Carcinogenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for the effects mentioned. For more information see section 3.
- Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.
- Reproductive toxicity: May damage fertility or the unborn child

E- Sensitizing effects:

- Respiratory: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous with sensitizing effects. For more information see section 3.
- Cutaneous: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

F- Specific target organ toxicity (STOT) - single exposure:

Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.



SECTION 11: TOXICOLOGICAL INFORMATION (continued)

G- Specific target organ toxicity (STOT)-repeated exposure:

- Specific target organ toxicity (STOT)-repeated exposure: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.
- Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

H- Aspiration hazard:

Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

Other information:

Non-applicable

Specific toxicology information on the substances:

Not available

SECTION 12: ECOLOGICAL INFORMATION

The experimental information related to the eco-toxicological properties of the product itself is not available

12.1 Toxicity:

Not available

12.2 Persistence and degradability:

Not available

12.3 Bioaccumulative potential:

Not available

12.4 Mobility in soil:

Not available

12.5 Results of PBT and vPvB assessment:

Product fails to meet PBT/vPvB criteria

12.6 Other adverse effects:

Not described

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:

| Code | Description | Waste class (Regulation (EU) No 1357/2014) |
|-----------|--|--|
| 16 05 06* | Laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals | Dangerous |

Type of waste (Regulation (EU) No 1357/2014):

HP10 Toxic for reproduction

Waste management (disposal and evaluation):

Consult the authorized waste service manager on the assessment and disposal operations in accordance with Annex 1 and Annex 2 (Directive 2008/98/EC). As under 15 01 (2014/955/EC) of the code and in case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-dangerous residue. We do not recommended disposal down the drain. See paragraph 6.2.

Regulations related to waste management:

In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH) the community or state provisions related to waste management are stated

Community legislation: Directive 2008/98/EC, 2014/955/EU, Regulation (EU) No 1357/2014

SECTION 14: TRANSPORT INFORMATION

**SECTION 14: TRANSPORT INFORMATION (continued)**

This product is not regulated for transport (ADR/RID,IMDG,IATA)

SECTION 15: REGULATORY INFORMATION**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:**

Candidate substances for authorisation under the Regulation (EC) No 1907/2006 (REACH): Non-applicable

Substances included in Annex XIV of REACH ("Authorisation List") and sunset date: Non-applicable

Regulation (EC) No 1005/2009, about substances that deplete the ozone layer: Non-applicable

Article 95, REGULATION (EU) No 528/2012: Non-applicable

REGULATION (EU) No 649/2012, in relation to the import and export of hazardous chemical products: Non-applicable

Limitations to commercialisation and the use of certain dangerous substances and mixtures (Annex XVII REACH, etc):

Product classified hazardous under the CMR. Sale and distribution to the general public is prohibited. Due to its CMR category, it is essential to apply the specific measures for workplace hazard prevention covered in articles 4 and 5 of the 2004/37/EC Directive and later modifications.

Specific provisions in terms of protecting people or the environment:

It is recommended to use the information included in this safety data sheet as a basis for conducting workplace-specific risk assessments in order to establish the necessary risk prevention measures for the handling, use, storage and disposal of this product.

Other legislation:

The product could be affected by sectorial legislation

15.2 Chemical safety assessment:

The supplier has not carried out evaluation of chemical safety.

SECTION 16: OTHER INFORMATION**Legislation related to safety data sheets:**

This safety data sheet has been designed in accordance with ANNEX II-Guide to the compilation of safety data sheets of Regulation (EC) No 1907/2006 (Regulation (EC) No 2015/830)

Modifications related to the previous Safety Data Sheet which concerns the ways of managing risks.:

Non-applicable

Texts of the legislative phrases mentioned in section 2:

H360: May damage fertility or the unborn child

Texts of the legislative phrases mentioned in section 3:

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3

CLP Regulation (EC) No 1272/2008:

Repr. 1A: H360 - May damage fertility or the unborn child

Classification procedure:

Repr. 1A: Calculation method

Advice related to training:

Minimal training is recommended in order to prevent industrial risks for staff using this product and to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources:

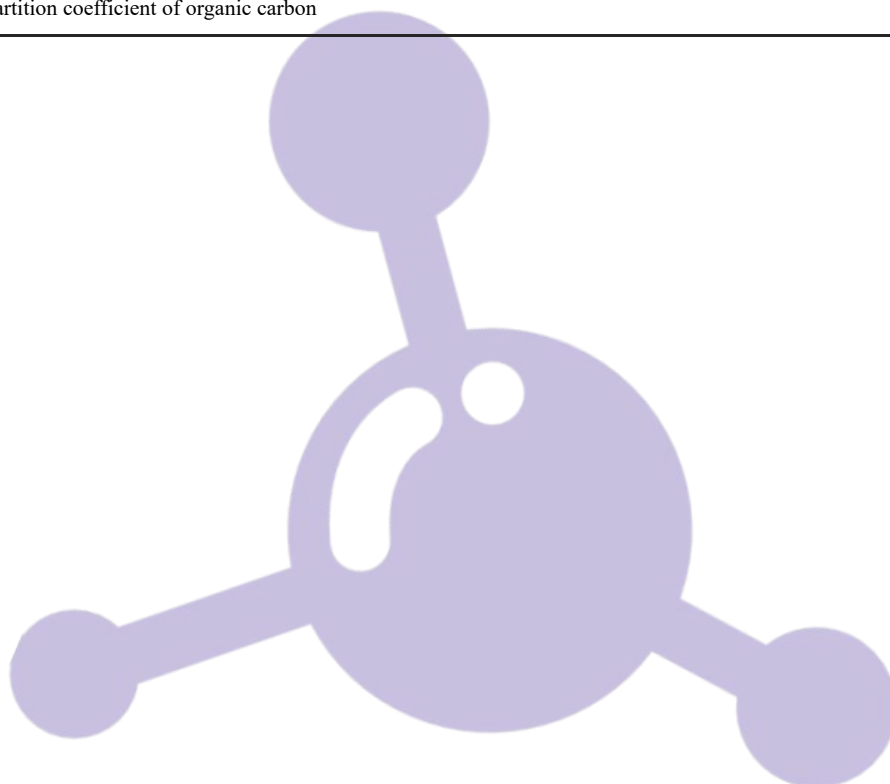
<http://echa.europa.eu>

<http://eur-lex.europa.eu>

Abbreviations and acronyms:

**SECTION 16: OTHER INFORMATION (continued)**

ADR: European agreement concerning the international carriage of dangerous goods by road
IMDG: International maritime dangerous goods code
IATA: International Air Transport Association
ICAO: International Civil Aviation Organisation
COD: Chemical Oxygen Demand
BOD5: 5-day biochemical oxygen demand
BCF: Bioconcentration factor
LD50: Lethal Dose 50
LC50: Lethal Concentration 50
EC50: Effective concentration 50
Log-POW: Octanol–water partition coefficient
Koc: Partition coefficient of organic carbon



The information contained in this safety data sheet is based on sources, technical knowledge and current legislation at European and state level, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product, it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within our awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

- END OF SAFETY DATA SHEET -

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

- 1.1 Product identifier:** KC-04 Caspase Reagent B
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**
Relevant uses: Research use. For professional user only.
Uses advised against: All uses not specified in this section or in section 7.3
- 1.3 Details of the supplier of the safety data sheet:**
BIOQUOCHEM S.L.
Edificio CEEL. Parque Tecnológico de Asturias
33428 Llanera - Asturias - España
Phone.: 985269292
hmunoz@bioquochem.com
http://www.bqckit.com
- 1.4 Emergency telephone number:** +34985269292 (9:00-19:00 UTC+1h; M-F)

SECTION 2: HAZARDS IDENTIFICATION

- 2.1 Classification of the substance or mixture:**
CLP Regulation (EC) No 1272/2008:
Classification of this product has been carried out in accordance with CLP Regulation (EC) No 1272/2008.
Acute Tox. 4: Acute toxicity if swallowed, Category 4, H302
Eye Irrit. 2: Eye irritation, Category 2, H319
Repr. 1A: Reproductive toxicity, Category 1A, H360
- 2.2 Label elements:**
CLP Regulation (EC) No 1272/2008:
Danger

Hazard statements:
Acute Tox. 4: H302 - Harmful if swallowed
Eye Irrit. 2: H319 - Causes serious eye irritation
Repr. 1A: H360 - May damage fertility or the unborn child
Precautionary statements:
P201: Obtain special instructions before use
P264: Wash thoroughly after handling
P280: Wear protective gloves/protective clothing/eye protection/face protection
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P308+P313: IF exposed or concerned: Get medical advice/attention
P330: Rinse mouth
P337+P313: If eye irritation persists: Get medical advice/attention
P501: Dispose of contents and / or containers in accordance with regulations on hazardous waste or packaging and packaging waste respectively
Substances that contribute to the classification
CHAPS; (R*,R*)-1,4-dimercaptobutane-2,3-diol
Additional Labelling (Annex XVII, REACH):
Restricted to professional users
- 2.3 Other hazards:**
Product fails to meet PBT/vPvB criteria

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

- 3.1 Substance:**
Non-applicable
- 3.2 Mixture:**



SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS (continued)

Chemical description: Aqueous solution of organic and inorganic compounds, glycol-ethers, surfactants, enzymes and colourants.

Components:

In accordance with Annex II of Regulation (EC) No 1907/2006 (point 3), the product contains:

| Identification | Chemical name/Classification | | Concentration |
|---|---|--|---------------|
| CAS: 75621-03-3 EC: 200-679-5 Index: 616-001-00-X REACH Non-applicable | CHAPS ¹ Self-classified | | 10 - <25 % |
| | Regulation 1272/2008 | Repr. 1A: H360 - Danger | |
| CAS: 3483-12-3 EC: 222-468-7 Index: Non-applicable REACH Non-applicable | (R*,R*)-1,4-dimercaptobutane-2,3-diol ¹ Self-classified | | 2,5 - <10 % |
| | Regulation 1272/2008 | Acute Tox. 4: H302; Eye Irrit. 2: H319; Skin Irrit. 2: H315; STOT SE 3: H335 - Warning | |
| CAS: 60-00-4 EC: 200-449-4 Index: 607-429-00-8 REACH 01-2119486399-18-XXXX | Edetic acid ¹ ATP ATP01 | | 2,5 - <10 % |
| | Regulation 1272/2008 | Eye Irrit. 2: H319 - Warning | |

¹ Substances presenting a health or environmental hazard which meet criteria laid down in Regulation (EU) No. 2015/830

To obtain more information on the risk of the substances consult sections 8, 11, 12, 15 and 16.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures:

The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort, showing the SDS of this product.

By inhalation:

This product is not classified as hazardous through inhalation. However, in case of intoxication symptoms it is recommended to remove the person affected from the area of exposure, provide clean air and keep at rest. Request medical attention if symptoms persist.

By skin contact:

This product is not classified as hazardous when in contact with the skin. However, in case of skin contact it is recommended to remove contaminated clothes and shoes, rinse the skin or if necessary shower the affected person thoroughly with cold water and neutral soap. In case of serious reaction consult a doctor.

By eye contact:

Rinse eyes thoroughly with lukewarm water for at least 15 minutes. Do not allow the person affected to rub or close their eyes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, in which case this could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the SDS of the product.

By ingestion/aspiration:

Request medical assistance immediately, showing the SDS of this product. Do not induce vomiting, but if it does happen keep the head down to avoid aspiration. In the case of loss of consciousness do not administer anything orally unless supervised by a doctor. Rinse out the mouth and throat, as they may have been affected during ingestion. Keep the person affected at rest.

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

Acute and delayed effects are indicated in sections 2 and 11.

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

Non-applicable

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media:

Product is non-flammable under normal conditions of storage, handling and use. In the case of combustion as a result of improper handling, storage or use preferably use polyvalent powder extinguishers (ABC powder), in accordance with the Regulation on fire protection systems. IT IS NOT RECOMMENDED to use tap water as an extinguishing agent.

5.2 Special hazards arising from the substance or mixture:

As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk.

5.3 Advice for firefighters:



SECTION 5: FIREFIGHTING MEASURES (continued)

Depending on the magnitude of the fire it may be necessary to use full protective clothing and self-contained breathing apparatus (SCBA). Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...) in accordance with Directive 89/654/EC.

Additional provisions:

Act in accordance with the Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. Eliminate all sources of ignition. In case of fire, cool the storage containers and tanks for products susceptible to combustion, explosion or BLEVE as a result of high temperatures. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

Isolate leaks provided that there is no additional risk for the people performing this task. Personal protection equipment must be used against potential contact with the spilt product (See section 8). Evacuate the area and keep out those who do not have protection.

6.2 Environmental precautions:

This product is not classified as hazardous to the environment. Keep product away from drains, surface and ground water.

6.3 Methods and material for containment and cleaning up:

It is recommended:

Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.

6.4 Reference to other sections:

See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:

A.- Precautions for safe manipulation

Comply with the current legislation concerning the prevention of industrial risks. Keep containers hermetically sealed. Control spills and residues, destroying them with safe methods (section 6). Avoid leakages from the container. Maintain order and cleanliness where dangerous products are used.

B.- Technical recommendations for the prevention of fires and explosions

Product is non-flammable under normal conditions of storage, handling and use. It is recommended to transfer at slow speeds to avoid the generation of electrostatic charges that can affect flammable products. Consult section 10 for information on conditions and materials that should be avoided.

C.- Technical recommendations to prevent ergonomic and toxicological risks

PREGNANT WOMEN SHOULD NOT BE EXPOSED TO THIS PRODUCT. Transfer in designated areas that comply with the necessary safety conditions (emergency showers and eyewash stations in close proximity), using personal protection equipment, especially on the hands and face (See section 8). Limit manual transfers to small amounts only. Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

D.- Technical recommendations to prevent environmental risks

It is recommended to have absorbent material available at close proximity to the product (See subsection 6.3)

7.2 Conditions for safe storage, including any incompatibilities:

A.- Technical measures for storage

| | |
|----------------|----------|
| Minimum Temp.: | 5 °C |
| Maximum Temp.: | 30 °C |
| Maximum time: | 6 Months |

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

7.3 Specific end use(s):

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION



SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

8.1 Control parameters:

Substances whose occupational exposure limits have to be monitored in the work environment

There are no occupational exposure limits for the substances contained in the product

DNEL (Workers):

| Identification | | Short exposure | | Long exposure | |
|--|------------|-----------------------|-----------------------|----------------|----------------|
| | | Systemic | Local | Systemic | Local |
| Edetic acid CAS: 60-00-4 EC: 200-449-4 | Oral | Non-applicable | Non-applicable | Non-applicable | Non-applicable |
| | Dermal | Non-applicable | Non-applicable | Non-applicable | Non-applicable |
| | Inhalation | 2,5 mg/m ³ | 2,5 mg/m ³ | Non-applicable | Non-applicable |

DNEL (General population):

| Identification | | Short exposure | | Long exposure | |
|--|------------|-----------------------|-----------------------|----------------|----------------|
| | | Systemic | Local | Systemic | Local |
| Edetic acid CAS: 60-00-4 EC: 200-449-4 | Oral | Non-applicable | Non-applicable | 25 mg/kg | Non-applicable |
| | Dermal | Non-applicable | Non-applicable | Non-applicable | Non-applicable |
| | Inhalation | 1,5 mg/m ³ | 1,5 mg/m ³ | Non-applicable | Non-applicable |

PNEC:

| Identification | | | | | |
|--|--------------|----------------|-------------------------|----------------|--|
| Edetic acid CAS: 60-00-4 EC: 200-449-4 | STP | 43 mg/L | Fresh water | 2,2 mg/L | |
| | Soil | 0,72 mg/kg | Marine water | 0,22 mg/L | |
| | Intermittent | 1,2 mg/L | Sediment (Fresh water) | Non-applicable | |
| | Oral | Non-applicable | Sediment (Marine water) | Non-applicable | |



8.2 Exposure controls:

A.- General security and hygiene measures in the work place



As a preventative measure it is recommended to use basic Personal Protective Equipment, with the corresponding <<CE marking>> in accordance with Directive 89/686/EC. For more information on Personal Protective Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For more information see subsection 7.1.

All information contained herein is a recommendation which needs some specification from the labour risk prevention services as it is not known whether the company has additional measures at its disposal.

B.- Respiratory protection



| Pictogram | PPE | Labelling | CEN Standard | Remarks |
|---|-----------------------------------|--|---------------------|--|
|  Mandatory respiratory tract protection | Filter mask for gases and vapours |  CAT III | EN 405:2001+A1:2009 | Replace when there is a taste or smell of the contaminant inside the face mask. If the contaminant comes with warnings it is recommended to use isolation equipment. |

C.- Specific protection for the hands

| Pictogram | PPE | Labelling | CEN Standard | Remarks |
|--|---|--|---|--|
|  Mandatory hand protection | NON-disposable chemical protective gloves |  CAT III | EN 374-1:2003 EN 374-3:2003/AC:2006 EN 420:2003+A1:2009 | The Breakthrough Time indicated by the manufacturer must exceed the period during which the product is being used. Do not use protective creams after the product has come into contact with skin. |

"As the product is a mixture of several substances, the resistance of the glove material can not be predicted in advance with total reliability and has therefore to be checked prior to the application"

D.- Ocular and facial protection

| Pictogram | PPE | Labelling | CEN Standard | Remarks |
|--|-----------|---|---|---|
|  Mandatory face protection | Face mask |  CAT II | EN 166:2001 EN 167:2001 EN 168:2001 EN ISO 4007:2012 | Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing. |

E.- Body protection



SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

| Pictogram | PPE | Labelling | CEN Standard | Remarks |
|--|---|-------------|--|---|
| Mandatory complete body protection | Disposable clothing for protection against chemical risks | CAT III | EN 13034:2005+A1:2009 EN 168:2001 EN ISO 13982-1:2004/A1:2010 EN ISO 6529:2001 EN ISO 6530:2005 EN 464:1994 | For professional use only. Clean periodically according to the manufacturer's instructions. |
| Mandatory foot protection | Safety footwear for protection against chemical risk | CAT III | EN ISO 20345:2011 EN 13832-1:2006 | Replace boots at any sign of deterioration. |

F.- Additional emergency measures

| Emergency measure | Standards | Emergency measure | Standards |
|----------------------|--------------------------------|----------------------|-------------------------------|
| Emergency shower | ANSI Z358-1 ISO 3864-1:2002 | Eyewash stations | DIN 12 899 ISO 3864-1:2002 |

Environmental exposure controls:

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see subsection 7.1.D

Volatile organic compounds:

With regard to Directive 2010/75/EU, this product has the following characteristics:

| | |
|---------------------------|-----------------------------|
| V.O.C. (Supply): | 0 % weight |
| V.O.C. density at 20 °C: | 0 kg/m ³ (0 g/L) |
| Average carbon number: | Non-applicable |
| Average molecular weight: | Non-applicable |

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

For complete information see the product datasheet.

Appearance:

| | |
|--------------------------|------------------|
| Physical state at 20 °C: | Liquid |
| Appearance: | Not available |
| Colour: | Not available |
| Odour: | Not available |
| Odour threshold: | Non-applicable * |

Volatility:

| | |
|--|----------------------|
| Boiling point at atmospheric pressure: | Non-applicable * |
| Vapour pressure at 20 °C: | Non-applicable * |
| Vapour pressure at 50 °C: | <300000 Pa (300 kPa) |
| Evaporation rate at 20 °C: | Non-applicable * |

Product description:

| | |
|-------------------------------|------------------|
| Density at 20 °C: | Non-applicable * |
| Relative density at 20 °C: | Non-applicable * |
| Dynamic viscosity at 20 °C: | Non-applicable * |
| Kinematic viscosity at 20 °C: | Non-applicable * |
| Kinematic viscosity at 40 °C: | Non-applicable * |
| Concentration: | Non-applicable * |

*Not relevant due to the nature of the product, not providing information property of its hazards.



SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)

| | |
|--|------------------|
| pH: | Non-applicable * |
| Vapour density at 20 °C: | Non-applicable * |
| Partition coefficient n-octanol/water 20 °C: | Non-applicable * |
| Solubility in water at 20 °C: | Non-applicable * |
| Solubility properties: | Non-applicable * |
| Decomposition temperature: | Non-applicable * |
| Melting point/freezing point: | Non-applicable * |
| Explosive properties: | Non-applicable * |
| Oxidising properties: | Non-applicable * |

Flammability:

| | |
|----------------------------|------------------------|
| Flash Point: | Non Flammable (>60 °C) |
| Flammability (solid, gas): | Non-applicable * |
| Autoignition temperature: | Non-applicable * |
| Lower flammability limit: | Non-applicable * |
| Upper flammability limit: | Non-applicable * |

Explosive:

| | |
|------------------------|------------------|
| Lower explosive limit: | Non-applicable * |
| Upper explosive limit: | Non-applicable * |

9.2 Other information:

| | |
|---------------------------|------------------|
| Surface tension at 20 °C: | Non-applicable * |
| Refraction index: | Non-applicable * |

*Not relevant due to the nature of the product, not providing information property of its hazards.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:

No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7.

10.2 Chemical stability:

Chemically stable under the conditions of storage, handling and use.

10.3 Possibility of hazardous reactions:

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

10.4 Conditions to avoid:

Applicable for handling and storage at room temperature:

| Shock and friction | Contact with air | Increase in temperature | Sunlight | Humidity |
|--------------------|------------------|-------------------------|----------------|----------------|
| Not applicable | Not applicable | Not applicable | Not applicable | Not applicable |

10.5 Incompatible materials:

| Acids | Water | Combustive materials | Combustible materials | Others |
|--------------------|----------------|----------------------|-----------------------|-------------------------------|
| Avoid strong acids | Not applicable | Not applicable | Not applicable | Avoid alkalis or strong bases |

10.6 Hazardous decomposition products:

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO₂), carbon monoxide and other organic compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

The experimental information related to the toxicological properties of the product itself is not available

Dangerous health implications:



SECTION 11: TOXICOLOGICAL INFORMATION (continued)

In case of exposure that is repetitive, prolonged or at concentrations higher than the recommended occupational exposure limits, adverse effects on health may result, depending on the means of exposure:

A.- Ingestion (acute effect):

- Acute toxicity : The consumption of a considerable dose can cause irritation in the throat, abdominal pain, nausea and vomiting.
- Corrosivity/Irritability: Based on available data, the classification criteria are not met. However, it does contain substances classified as dangerous for this effect. For more information see section 3.

B- Inhalation (acute effect):

- Acute toxicity : Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for inhalation. For more information see section 3.
- Corrosivity/Irritability: Based on available data, the classification criteria are not met. However, it contains substances classified as dangerous for inhalation. For more information see section 3.

C- Contact with the skin and the eyes (acute effect):

- Contact with the skin: Based on available data, the classification criteria are not met. However, it contains substances classified as dangerous for skin contact. For more information see section 3.
- Contact with the eyes: Produces eye damage after contact.

D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):

- Carcinogenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for the effects mentioned. For more information see section 3.
- Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.
- Reproductive toxicity: May damage fertility or the unborn child

E- Sensitizing effects:

- Respiratory: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous with sensitizing effects. For more information see section 3.
- Cutaneous: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

F- Specific target organ toxicity (STOT) - single exposure:

Based on available data, the classification criteria are not met. However, it contains substances classified as dangerous for inhalation. For more information see section 3.

G- Specific target organ toxicity (STOT)-repeated exposure:

- Specific target organ toxicity (STOT)-repeated exposure: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.
- Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

H- Aspiration hazard:

Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

Other information:

Non-applicable

Specific toxicology information on the substances:

| Identification | Acute toxicity | | Genus |
|---------------------------------------|-----------------|----------------|-------|
| | LD50 oral | LD50 dermal | |
| (R*,R*)-1,4-dimercaptobutane-2,3-diol | 400 mg/kg | Non-applicable | Rat |
| CAS: 3483-12-3 | LD50 dermal | Non-applicable | |
| EC: 222-468-7 | LC50 inhalation | Non-applicable | |
| Edetic acid | LD50 oral | 2581 mg/kg | Rat |
| CAS: 60-00-4 | LD50 dermal | Non-applicable | |
| EC: 200-449-4 | LC50 inhalation | Non-applicable | |

SECTION 12: ECOLOGICAL INFORMATION

The experimental information related to the eco-toxicological properties of the product itself is not available

12.1 Toxicity:



SECTION 12: ECOLOGICAL INFORMATION (continued)

| Identification | Acute toxicity | | Species | Genus |
|--|----------------|------------------|-------------------------|------------|
| Edetic acid CAS: 60-00-4 EC: 200-449-4 | LC50 | 41 mg/L (96 h) | Lepomis macrochirus | Fish |
| | EC50 | 610 mg/L (24 h) | Daphnia magna | Crustacean |
| | EC50 | 1.01 mg/L (72 h) | Scenedesmus subspicatus | Algae |

12.2 Persistence and degradability:

| Identification | Degradability | | Biodegradability | |
|----------------|--|----------------|------------------|----------------|
| | Edetic acid CAS: 60-00-4 EC: 200-449-4 | BOD5 | Non-applicable | Concentration |
| | COD | Non-applicable | Period | Non-applicable |
| | BOD5/COD | 3.5 | % Biodegradable | Non-applicable |

12.3 Bioaccumulative potential:

| Identification | Bioaccumulation potential | |
|--|---------------------------|-------|
| Edetic acid CAS: 60-00-4 EC: 200-449-4 | BCF | 13 |
| | Pow Log | -3.34 |
| | Potential | Low |

12.4 Mobility in soil:

| Identification | Absorption/desorption | | Volatility | |
|--|-----------------------|----------------|------------|-----------------------------|
| Edetic acid CAS: 60-00-4 EC: 200-449-4 | Koc | 1046 | Henry | 0E+0 Pa·m ³ /mol |
| | Conclusion | Low | Dry soil | No |
| | Surface tension | Non-applicable | Moist soil | No |

12.5 Results of PBT and vPvB assessment:

Product fails to meet PBT/vPvB criteria

12.6 Other adverse effects:

Not described

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:

| Code | Description | Waste class (Regulation (EU) No 1357/2014) |
|-----------|--|--|
| 16 05 06* | Laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals | Dangerous |

Type of waste (Regulation (EU) No 1357/2014):

HP4 Irritant — skin irritation and eye damage, HP10 Toxic for reproduction

Waste management (disposal and evaluation):

Consult the authorized waste service manager on the assessment and disposal operations in accordance with Annex 1 and Annex 2 (Directive 2008/98/EC). As under 15 01 (2014/955/EC) of the code and in case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-dangerous residue. We do not recommended disposal down the drain. See paragraph 6.2.

Regulations related to waste management:

In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH) the community or state provisions related to waste management are stated

Community legislation: Directive 2008/98/EC, 2014/955/EU, Regulation (EU) No 1357/2014

SECTION 14: TRANSPORT INFORMATION

This product is not regulated for transport (ADR/RID,IMDG,IATA)

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:



SECTION 15: REGULATORY INFORMATION (continued)

Candidate substances for authorisation under the Regulation (EC) No 1907/2006 (REACH): Non-applicable

Substances included in Annex XIV of REACH ("Authorisation List") and sunset date: Non-applicable

Regulation (EC) No 1005/2009, about substances that deplete the ozone layer: Non-applicable

Article 95, REGULATION (EU) No 528/2012: Non-applicable

REGULATION (EU) No 649/2012, in relation to the import and export of hazardous chemical products: Non-applicable

Limitations to commercialisation and the use of certain dangerous substances and mixtures (Annex XVII REACH, etc ...):

Product classified hazardous under the CMR. Sale and distribution to the general public is prohibited. Due to its CMR category, it is essential to apply the specific measures for workplace hazard prevention covered in articles 4 and 5 of the 2004/37/EC Directive and later modifications.

Specific provisions in terms of protecting people or the environment:

It is recommended to use the information included in this safety data sheet as a basis for conducting workplace-specific risk assessments in order to establish the necessary risk prevention measures for the handling, use, storage and disposal of this product.

Other legislation:

The product could be affected by sectorial legislation

15.2 Chemical safety assessment:

The supplier has not carried out evaluation of chemical safety.

SECTION 16: OTHER INFORMATION

Legislation related to safety data sheets:

This safety data sheet has been designed in accordance with ANNEX II-Guide to the compilation of safety data sheets of Regulation (EC) No 1907/2006 (Regulation (EC) No 2015/830)

Modifications related to the previous Safety Data Sheet which concerns the ways of managing risks.:

Non-applicable

Texts of the legislative phrases mentioned in section 2:

H319: Causes serious eye irritation

H360: May damage fertility or the unborn child

H302: Harmful if swallowed

Texts of the legislative phrases mentioned in section 3:

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3

CLP Regulation (EC) No 1272/2008:

Acute Tox. 4: H302 - Harmful if swallowed

Eye Irrit. 2: H319 - Causes serious eye irritation

Repr. 1A: H360 - May damage fertility or the unborn child

Skin Irrit. 2: H315 - Causes skin irritation

STOT SE 3: H335 - May cause respiratory irritation

Classification procedure:

Eye Irrit. 2: Calculation method

Repr. 1A: Calculation method

Acute Tox. 4: Calculation method

Advice related to training:

Minimal training is recommended in order to prevent industrial risks for staff using this product and to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources:

<http://echa.europa.eu>

<http://eur-lex.europa.eu>

Abbreviations and acronyms:

ADR: European agreement concerning the international carriage of dangerous goods by road

IMDG: International maritime dangerous goods code

IATA: International Air Transport Association

ICAO: International Civil Aviation Organisation

COD: Chemical Oxygen Demand

BOD5: 5-day biochemical oxygen demand

BCF: Bioconcentration factor

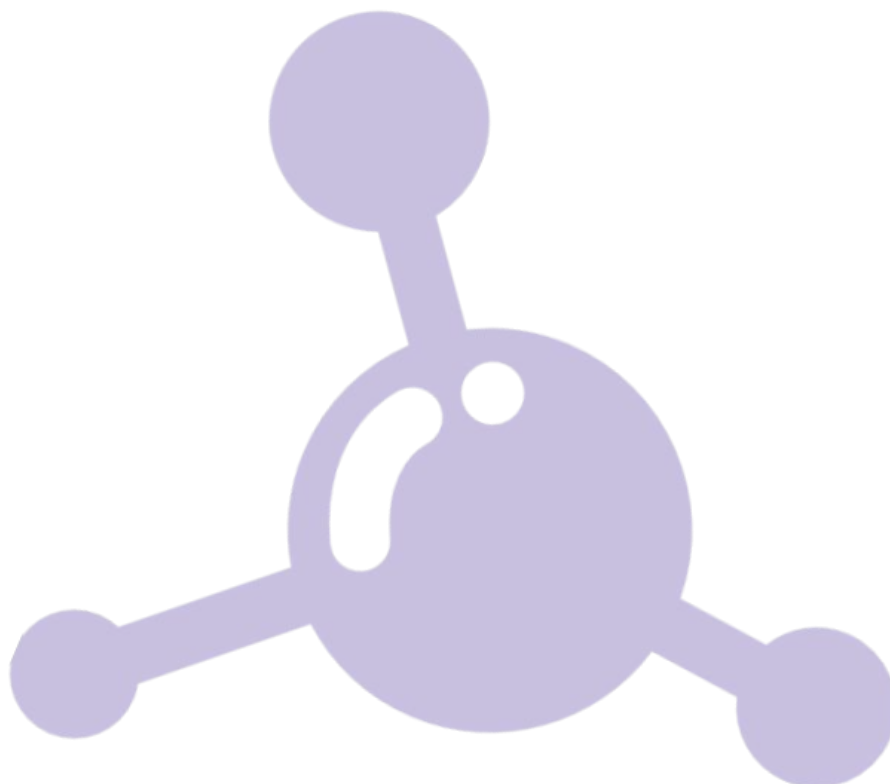
LD50: Lethal Dose 50

LC50: Lethal Concentration 50

EC50: Effective concentration 50

Log-POW: Octanol-water partition coefficient

Koc: Partition coefficient of organic carbon



The information contained in this safety data sheet is based on sources, technical knowledge and current legislation at European and state level, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product, it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within our awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

- END OF SAFETY DATA SHEET -

KC-04-005 Reagent C

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

- 1.1 Product identifier:** KC-04-005 Reagent C
Dimethyl sulfoxide
CAS: 67-68-5
EC: 200-664-3
Index: Non-applicable
REACH: 01-2119431362-50-XXXX
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**
Relevant uses: Research use. For professional user only.
Uses advised against: All uses not specified in this section or in section 7.3
- 1.3 Details of the supplier of the safety data sheet:**
BIOQUOCHEM S.L.
Edificio CEEI. Parque Tecnológico de Asturias
33428 Llanera - Asturias - España
Phone.: 985269292
hmuno@bioquochem.com
http://www.bqckit.com
- 1.4 Emergency telephone number:** +34985269292 (9:00-19:00 UTC+1h; M-F)

SECTION 2: HAZARDS IDENTIFICATION

- 2.1 Classification of the substance or mixture:**
CLP Regulation (EC) No 1272/2008:
The product is not classified as hazardous according to CLP Regulation (EC) No 1272/2008.
- 2.2 Label elements:**
CLP Regulation (EC) No 1272/2008:
None
- 2.3 Other hazards:**
Product fails to meet PBT/vPvB criteria

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

- 3.1 Substance:**
Chemical description: Aqueous solution of organic and inorganic compounds, glycol-ethers, surfactants, enzymes and colourants.

Components:

In accordance with Annex II of Regulation (EC) No 1907/2006 (point 3), the product contains:

| Identification | Chemical name/Classification | Concentration |
|--|---|--------------------------------|
| CAS: 67-68-5 EC: 200-664-3 Index: Non-applicable REACH 01-2119431362-50-XXXX : | Dimethyl sulfoxide Regulation 1272/2008 | Not classified 100 % |

To obtain more information on the risk of the substances consult sections 8, 11, 12, 15 and 16.

- 3.2 Mixture:**
Non-applicable

SECTION 4: FIRST AID MEASURES

- 4.1 Description of first aid measures:**
Consult a doctor in case of discomfort showing the SDS for the product.
- By inhalation:**
In case of symptoms, move the person affected into fresh air.

SECTION 4: FIRST AID MEASURES (continued)**By skin contact:**

In case of contact it is recommended to clean the affected area thoroughly with water and neutral soap. In case of changes to the skin (stinging, redness, rashes, blisters,...), seek medical advice with this Safety data Sheet

By eye contact:

Rinse with water until the product has been eliminated. In case of problems, consult a doctor showing the SDS for the product.

By ingestion/aspiration:

In case of consumption in large quantities, it is recommended to seek medical assistance.

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

Acute and delayed effects are indicated in sections 2 and 11.

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

Non-applicable

SECTION 5: FIREFIGHTING MEASURES**5.1 Extinguishing media:**

Product is non-flammable, with a low risk of fire due to the flammability characteristics of the product in normal conditions of storage, handling and use. In the case of the existence of sustained combustion as a result of improper handling, storage or use any type of extinguishing agent can be used (ABC Powder, water,...)

5.2 Special hazards arising from the substance or mixture:

Due to its non-flammable nature, the product does not present a fire risk under normal conditions of storage, handling and use.

5.3 Advice for firefighters:

Depending on the magnitude of the fire it may be necessary to use full protective clothing and self-contained breathing apparatus (SCBA). Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...) in accordance with Directive 89/654/EC.

Additional provisions:

Act in accordance with the Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. Eliminate all sources of ignition. In case of fire, cool the storage containers and tanks for products susceptible to combustion, explosion or BLEVE as a result of high temperatures. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

SECTION 6: ACCIDENTAL RELEASE MEASURES**6.1 Personal precautions, protective equipment and emergency procedures:**

Isolate leaks provided that there is no additional risk for the people performing this task.

6.2 Environmental precautions:

This product is not classified as hazardous to the environment. Keep product away from drains, surface and ground water.

6.3 Methods and material for containment and cleaning up:

It is recommended:

Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.

6.4 Reference to other sections:

See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE**7.1 Precautions for safe handling:**

A.- Precautions for safe manipulation

Comply with the current legislation concerning the prevention of industrial risks. Keep containers hermetically sealed. Control spills and residues, destroying them with safe methods (section 6). Avoid leakages from the container. Maintain order and cleanliness where dangerous products are used.

B.- Technical recommendations for the prevention of fires and explosions

It is recommended to transfer at a slow speed to avoid the creation of electrostatic charges that could affect flammable products. Consult section 10 for conditions and materials that should be avoided.

SECTION 7: HANDLING AND STORAGE (continued)

C.- Technical recommendations to prevent ergonomic and toxicological risks

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

D.- Technical recommendations to prevent environmental risks

It is not necessary to take special measures to prevent environmental risks. For more information see subsection 6.2

7.2 Conditions for safe storage, including any incompatibilities:

A.- Technical measures for storage

Minimum Temp.: 5 °C

Maximum Temp.: 30 °C

Maximum time: 6 Months

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

7.3 Specific end use(s):

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters:

Substances whose occupational exposure limits have to be monitored in the work environment

There are no occupational exposure limits for the substances contained in the product

DNEL (Workers):

| Identification | | Short exposure | | Long exposure | |
|---|------------|----------------|----------------|-----------------------|-----------------------|
| | | Systemic | Local | Systemic | Local |
| Dimethyl sulfoxide CAS: 67-68-5 EC: 200-664-3 | Oral | Non-applicable | Non-applicable | Non-applicable | Non-applicable |
| | Dermal | Non-applicable | Non-applicable | 200 mg/kg | Non-applicable |
| | Inhalation | Non-applicable | Non-applicable | 484 mg/m ³ | 265 mg/m ³ |

DNEL (General population):

| Identification | | Short exposure | | Long exposure | |
|---|------------|----------------|----------------|-----------------------|----------------------|
| | | Systemic | Local | Systemic | Local |
| Dimethyl sulfoxide CAS: 67-68-5 EC: 200-664-3 | Oral | Non-applicable | Non-applicable | 60 mg/kg | Non-applicable |
| | Dermal | Non-applicable | Non-applicable | 100 mg/kg | Non-applicable |
| | Inhalation | Non-applicable | Non-applicable | 120 mg/m ³ | 47 mg/m ³ |

PNEC:

| Identification | | | | |
|---|--------------|----------------|-------------------------|----------------|
| Dimethyl sulfoxide CAS: 67-68-5 EC: 200-664-3 | STP | 11 mg/L | Fresh water | 17 mg/L |
| | Soil | 3,02 mg/kg | Marine water | 1,7 mg/L |
| | Intermittent | Non-applicable | Sediment (Fresh water) | 13,4 mg/kg |
| | Oral | 700 g/kg | Sediment (Marine water) | Non-applicable |

8.2 Exposure controls:

A.- General security and hygiene measures in the work place

As a preventative measure it is recommended to use basic Personal Protective Equipment, with the corresponding <<CE marking>> in accordance with Directive 89/686/EC. For more information on Personal Protective Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For more information see subsection 7.1.



All information contained herein is a recommendation which needs some specification from the labour risk prevention services as it is not known whether the company has additional measures at its disposal.

B.- Respiratory protection



The use of protection equipment will be necessary if a mist forms or if the occupational exposure limits are exceeded.

C.- Specific protection for the hands



SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

| Pictogram | PPE | Labelling | CEN Standard | Remarks |
|--|---------------------------------------|---|--------------|---|
|  Mandatory hand protection | Protective gloves against minor risks |  | | Replace gloves in case of any sign of damage. For prolonged periods of exposure to the product for professional users/industrials, we recommend using CE III gloves in line with standards EN 420 and EN 374. |

D.- Ocular and facial protection

| Pictogram | PPE | Labelling | CEN Standard | Remarks |
|--|---|---|---------------------------------|---|
|  Mandatory face protection | Panoramic glasses against splash/projections. |  | EN 166:2001 EN ISO 4007:2012 | Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing. |

E.- Body protection

| Pictogram | PPE | Labelling | CEN Standard | Remarks |
|-----------|----------------------|--|-------------------|---|
| | Work clothing |  | | Replace before any evidence of deterioration. For periods of prolonged exposure to the product for professional/industrial users CE III is recommended, in accordance with the regulations in EN ISO 6529:2001, EN ISO 6530:2005, EN ISO 13688:2013, EN 464:1994. |
| | Anti-slip work shoes |  | EN ISO 20347:2012 | Replace before any evidence of deterioration. For periods of prolonged exposure to the product for professional/industrial users CE III is recommended, in accordance with the regulations in EN ISO 20345 y EN 13832-1 |

F.- Additional emergency measures

It is not necessary to take additional emergency measures.

Environmental exposure controls:

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see subsection 7.1.D

Volatile organic compounds:

With regard to Directive 2010/75/EU, this product has the following characteristics:

| | |
|---------------------------|-----------------------------------|
| V.O.C. (Supply): | 100 % weight |
| V.O.C. density at 20 °C: | 1100 kg/m ³ (1100 g/L) |
| Average carbon number: | 2 |
| Average molecular weight: | 78,1 g/mol |

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

For complete information see the product datasheet.

Appearance:

| | |
|--------------------------|------------------|
| Physical state at 20 °C: | Liquid |
| Appearance: | Not available |
| Colour: | Not available |
| Odour: | Not available |
| Odour threshold: | Non-applicable * |

Volatility:

| | |
|--|----------------|
| Boiling point at atmospheric pressure: | 189 °C |
| Vapour pressure at 20 °C: | 58 Pa |
| Vapour pressure at 50 °C: | 443 Pa (0 kPa) |

*Not relevant due to the nature of the product, not providing information property of its hazards.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)

| | |
|--|------------------------|
| Evaporation rate at 20 °C: | Non-applicable * |
| Product description: | |
| Density at 20 °C: | 1100 kg/m ³ |
| Relative density at 20 °C: | 1,1 |
| Dynamic viscosity at 20 °C: | 2,19 cP |
| Kinematic viscosity at 20 °C: | 1,99 cSt |
| Kinematic viscosity at 40 °C: | Non-applicable * |
| Concentration: | Non-applicable * |
| pH: | Non-applicable * |
| Vapour density at 20 °C: | Non-applicable * |
| Partition coefficient n-octanol/water 20 °C: | Non-applicable * |
| Solubility in water at 20 °C: | Non-applicable * |
| Solubility properties: | Non-applicable * |
| Decomposition temperature: | Non-applicable * |
| Melting point/freezing point: | 19 °C |
| Explosive properties: | Non-applicable * |
| Oxidising properties: | Non-applicable * |
| Flammability: | |
| Flash Point: | 87 °C |
| Flammability (solid, gas): | Non-applicable * |
| Autoignition temperature: | 300 °C |
| Lower flammability limit: | 2,6 % Volume |
| Upper flammability limit: | 28,5 % Volume |
| Explosive: | |
| Lower explosive limit: | Non-applicable * |
| Upper explosive limit: | Non-applicable * |
| 9.2 Other information: | |
| Surface tension at 20 °C: | Non-applicable * |
| Refraction index: | Non-applicable * |

*Not relevant due to the nature of the product, not providing information property of its hazards.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:

No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7.

10.2 Chemical stability:

Chemically stable under the conditions of storage, handling and use.

10.3 Possibility of hazardous reactions:

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

10.4 Conditions to avoid:

Applicable for handling and storage at room temperature:

| Shock and friction | Contact with air | Increase in temperature | Sunlight | Humidity |
|--------------------|------------------|-------------------------|----------------|----------------|
| Not applicable | Not applicable | Not applicable | Not applicable | Not applicable |

10.5 Incompatible materials:

| Acids | Water | Combustive materials | Combustible materials | Others |
|--------------------|----------------|----------------------|-----------------------|-------------------------------|
| Avoid strong acids | Not applicable | Not applicable | Not applicable | Avoid alkalis or strong bases |

SECTION 10: STABILITY AND REACTIVITY (continued)

10.6 Hazardous decomposition products:

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO₂), carbon monoxide and other organic compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

LD50 oral > 2000 mg/kg (rat)

Dangerous health implications:

In case of exposure that is repetitive, prolonged or at concentrations higher than the recommended occupational exposure limits, adverse effects on health may result, depending on the means of exposure:

A.- Ingestion (acute effect):

- Acute toxicity : Based on available data, the classification criteria are not met
- Corrosivity/Irritability: Based on available data, the classification criteria are not met

B- Inhalation (acute effect):

- Acute toxicity : Based on available data, the classification criteria are not met
- Corrosivity/Irritability: Based on available data, the classification criteria are not met

C- Contact with the skin and the eyes (acute effect):

- Contact with the skin: Based on available data, the classification criteria are not met
- Contact with the eyes: Based on available data, the classification criteria are not met

D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):

- Carcinogenicity: Based on available data, the classification criteria are not met
- Mutagenicity: Based on available data, the classification criteria are not met
- Reproductive toxicity: Based on available data, the classification criteria are not met

E- Sensitizing effects:

- Respiratory: Based on available data, the classification criteria are not met
- Cutaneous: Based on available data, the classification criteria are not met

F- Specific target organ toxicity (STOT) - single exposure:

Based on available data, the classification criteria are not met

G- Specific target organ toxicity (STOT)-repeated exposure:

- Specific target organ toxicity (STOT)-repeated exposure: Based on available data, the classification criteria are not met
- Skin: Based on available data, the classification criteria are not met

H- Aspiration hazard:

Based on available data, the classification criteria are not met

Other information:

Non-applicable

Specific toxicology information on the substances:

| Identification | Acute toxicity | | Genus |
|--------------------|-----------------|----------------|-------|
| | LD50 oral | LD50 dermal | |
| Dimethyl sulfoxide | 28300 mg/kg | Non-applicable | Rat |
| CAS: 67-68-5 | LD50 dermal | Non-applicable | |
| EC: 200-664-3 | LC50 inhalation | Non-applicable | |

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity:

Not available

12.2 Persistence and degradability:

Not available

12.3 Bioaccumulative potential:

SECTION 12: ECOLOGICAL INFORMATION (continued)

Not available

12.4 Mobility in soil:

Not available

12.5 Results of PBT and vPvB assessment:

Product fails to meet PBT/vPvB criteria

12.6 Other adverse effects:

Not described

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:

| Code | Description | Waste class (Regulation (EU) No 1357/2014) |
|----------|--|--|
| 16 05 09 | Discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08 | Non dangerous |

Type of waste (Regulation (EU) No 1357/2014):

Non-applicable

Waste management (disposal and evaluation):

Consult the authorized waste service manager on the assessment and disposal operations in accordance with Annex 1 and Annex 2 (Directive 2008/98/EC). As under 15 01 (2014/955/EC) of the code and in case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-dangerous residue. We do not recommended disposal down the drain. See paragraph 6.2.

Regulations related to waste management:

In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH) the community or state provisions related to waste management are stated

Community legislation: Directive 2008/98/EC, 2014/955/EU, Regulation (EU) No 1357/2014

SECTION 14: TRANSPORT INFORMATION

This product is not regulated for transport (ADR/RID,IMDG,IATA)

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

Candidate substances for authorisation under the Regulation (EC) No 1907/2006 (REACH): Non-applicable

Substances included in Annex XIV of REACH ("Authorisation List") and sunset date: Non-applicable

Regulation (EC) No 1005/2009, about substances that deplete the ozone layer: Non-applicable

Article 95, REGULATION (EU) No 528/2012: Non-applicable

REGULATION (EU) No 649/2012, in relation to the import and export of hazardous chemical products: Non-applicable

Limitations to commercialisation and the use of certain dangerous substances and mixtures (Annex XVII REACH, etc):

Non-applicable

Specific provisions in terms of protecting people or the environment:

It is recommended to use the information included in this safety data sheet as a basis for conducting workplace-specific risk assessments in order to establish the necessary risk prevention measures for the handling, use, storage and disposal of this product.

Other legislation:

The product could be affected by sectorial legislation

15.2 Chemical safety assessment:

The supplier has not carried out evaluation of chemical safety.

SECTION 16: OTHER INFORMATION**Legislation related to safety data sheets:**

This safety data sheet has been designed in accordance with ANNEX II-Guide to the compilation of safety data sheets of Regulation (EC) No 1907/2006 (Regulation (EC) No 2015/830)

Modifications related to the previous Safety Data Sheet which concerns the ways of managing risks.:

Non-applicable

Texts of the legislative phrases mentioned in section 3:

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3

CLP Regulation (EC) No 1272/2008:

Non-applicable

Advice related to training:

Minimal training is recommended in order to prevent industrial risks for staff using this product and to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources:

<http://echa.europa.eu>

<http://eur-lex.europa.eu>

Abbreviations and acronyms:

ADR: European agreement concerning the international carriage of dangerous goods by road

IMDG: International maritime dangerous goods code

IATA: International Air Transport Association

ICAO: International Civil Aviation Organisation

COD: Chemical Oxygen Demand

BOD5: 5-day biochemical oxygen demand

BCF: Bioconcentration factor

LD50: Lethal Dose 50

LC50: Lethal Concentration 50

EC50: Effective concentration 50

Log-POW: Octanol–water partition coefficient

Koc: Partition coefficient of organic carbon

