

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/13/2017

Reviewed on 02/10/2017

1 Identification

- **Product identifier**
- **Trade name:** KETOCHROME/17-OHCS by Column Test, REAG A
- **Article number:** 1843012
- **CAS Number:**
16940-66-2
- **EC number:**
241-004-4
- **Application of the substance / the mixture** In-Vitro-laboratory reagent or component
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier**
Bio-Rad Laboratories (Canada) Ltd.
2403 Guenette Street
Montreal, Quebec H4R 2E9
Phone: (514) 334-4372
Freephone: 1 (800) 361-1808
Fax: (514) 334-0872
- **Information department:**
Technical Support:
E-mail: cdg_canada_salesmarketing@bio-rad.com
- **Emergency telephone number:**
GBK Gefahrgut Büro GmbH
Tel.: 0049(0)6123-84463

2 Hazard(s) identification

- **Classification of the substance or mixture**
Substances and Mixtures Which, in Contact with Water, H260 In contact with water releases flammable
Emit Flammable Gases - Category 1 gases which may ignite spontaneously.
Acute Toxicity (Oral) - Category 3 H301 Toxic if swallowed.
Acute Toxicity (Dermal) - Category 3 H311 Toxic in contact with skin.
Skin Corrosion - Category 1B H314 Causes severe skin burns and eye damage.
Serious Eye Damage - Category 1 H318 Causes serious eye damage.

· Label elements

· GHS label elements

The substance is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms



GHS02 GHS05 GHS06

· Signal word Danger

· Hazard-determining components of labeling:

sodium tetrahydroborate

· Hazard statements

In contact with water releases flammable gases which may ignite spontaneously.

Toxic if swallowed or in contact with skin.

Causes severe skin burns and eye damage.

· Precautionary statements

Do not allow contact with water.

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*IF SWALLOWED: Immediately call a POISON CENTER/ doctor.**IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**Store locked up.**Dispose of contents/container in accordance with local/regional/national/international regulations.*· **Hazard description:**· **WHMIS-symbols:***B6 - Reactive flammable material**D1B - Toxic material causing immediate and serious toxic effects**D2B - Toxic material causing other toxic effects**E - Corrosive material*· **Classification system:**· **NFPA ratings (scale 0 - 4)***Health = 3**Fire = 0**Reactivity = 2**The substance demonstrates unusual reactivity with water.*· **HMIS-ratings (scale 0 - 4)***Health = 3**Fire = 0**Reactivity = 2*

3 Composition/information on ingredients

· **Chemical characterization: Substances**· **CAS No. Description***16940-66-2 sodium tetrahydroborate*· **Identification number(s)***EC number: 241-004-4*· **Dangerous components: Void**

4 First-aid measures

· **Description of first aid measures**· **General information:***Immediately remove any clothing soiled by the product.**In case of irregular breathing or respiratory arrest provide artificial respiration.*· **After inhalation:** *In case of unconsciousness place patient stably in side position for transportation.*· **After skin contact:** *Immediately wash with water and soap and rinse thoroughly.*· **After eye contact:** *Rinse opened eye for several minutes under running water. Then consult a doctor.*· **After swallowing:***Do not induce vomiting; immediately call for medical help.**Drink copious amounts of water and provide fresh air. Immediately call a doctor.*

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- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** Water
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Use neutralizing agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Thorough dedusting.
- **Information about protection against explosions and fires:** Keep ignition sources away - Do not smoke.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:**
Do not store together with oxidizing and acidic materials as well as heavy-metal compounds.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists that were valid during the creation were used as basis.

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- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 Keep away from foodstuffs, beverages and feed.
 Immediately remove all soiled and contaminated clothing.
 Wash hands before breaks and at the end of work.
 Store protective clothing separately.
 Avoid contact with the eyes and skin.
- **Breathing equipment:** Not required.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
 Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
 Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**
 The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- **Penetration time of glove material**
 The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**
 Safety glasses



Tightly sealed goggles

- **Body protection:** Protective work clothing

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

| | |
|-----------------|-----------------|
| Form: | Solid |
| Color: | White |
| Odor: | Characteristic |
| Odor threshold: | Not determined. |

| | |
|--------------------|----|
| · pH-value: | 11 |
|--------------------|----|

- **Change in condition**

| | |
|------------------------------|---------------|
| Melting point/Melting range: | 500 °C |
| Boiling point/Boiling range: | Undetermined. |

| | |
|-----------------------|-----------------|
| · Flash point: | Not applicable. |
|-----------------------|-----------------|

- **Flammability (solid, gaseous):** Contact with water liberates extremely flammable gases.

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| | |
|---|--|
| · Ignition temperature: | 220 °C |
| · Decomposition temperature: | Not determined. |
| · Auto igniting: | Not determined. |
| · Danger of explosion: | Not determined. |
| · Explosion limits: | |
| Lower: | Not determined. |
| Upper: | Not determined. |
| · Vapor pressure: | Not applicable. |
| · Density at 20 °C: | 1,07 g/cm ³ |
| · Bulk density at 20 °C: | 400-500 kg/m ³ |
| · Relative density | Not determined. |
| · Vapor density | Not applicable. |
| · Evaporation rate | Not applicable. |
| · Solubility in / Miscibility with Water at 25 °C: | 550 g/l |
| · Partition coefficient (n-octanol/water): | Not determined. |
| · Viscosity: | |
| Dynamic: | Not applicable. |
| Kinematic: | Not applicable. |
| · Other information | No further relevant information available. |

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions**
 - Reacts with strong acids and oxidizing agents.
 - Reacts with heavy metals.
 - Contact with water releases flammable gases.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** Hydrogen

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
 - **on the skin:** Caustic effect on skin and mucous membranes.
 - **on the eye:** Strong caustic effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
 - Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

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· **Carcinogenic categories**· **IARC (International Agency for Research on Cancer)**

Substance is not listed.

· **NTP (National Toxicology Program)**

Substance is not listed.

12 Ecological information

· **Toxicity**· **Aquatic toxicity:** No further relevant information available.· **Persistence and degradability** No further relevant information available.· **Behavior in environmental systems:**· **Bioaccumulative potential** No further relevant information available.· **Mobility in soil** No further relevant information available.· **Additional ecological information:**· **General notes:**

Water hazard class 2 (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Danger to drinking water if even small quantities leak into the ground.

· **Results of PBT and vPvB assessment**· **PBT:** Not applicable.· **vPvB:** Not applicable.· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**· **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**· **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· **UN-Number**· **DOT, TDG, IMDG, IATA**

UN1426

· **UN proper shipping name**· **DOT**

Sodium borohydride

· **TDG**

1426 Sodium borohydride

· **IMDG, IATA**

SODIUM BOROHYDRIDE

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· **Transport hazard class(es)**· **DOT**· **Class**

4.3 Substances which, in contact with water, emit flammable gases

· **Label**

4.3

· **TDG, IMDG, IATA**· **Class**

4.3 Substances which, in contact with water, emit flammable gases

· **Label**

4.3

· **Packing group**· **DOT, TDG, IMDG, IATA**

I

· **Environmental hazards:**· **Marine pollutant:**

No

· **Special precautions for user**

Warning: Substances which, in contact with water, emit flammable gases

· **Danger code (Kemler):**

-

· **EMS Number:**

F-G,S-O

· **Stowage Category**

E

· **Handling Code**

H1 Keep as dry as reasonably practicable

· **Segregation Code**

SG26 In addition: from goods of classes 2.1 and 3 when stowed on deck of a containership a minimum distance of two container spaces athwartship shall be maintained, when stowed on ro-ro ships a distance of 6 m athwartship shall be maintained.

SG35 Stow "separated from" acids.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**· **TDG**· **Excepted quantities (EQ)**

Code: E0

Not permitted as Excepted Quantity

· **IMDG**· **Limited quantities (LQ)**

0

· **Excepted quantities (EQ)**

Code: E0

Not permitted as Excepted Quantity

· **UN "Model Regulation":**

UN 1426 SODIUM BOROHYDRIDE, 4.3, I

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15 Regulatory information

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

· Section 355 (extremely hazardous substances):

Substance is not listed.

· Section 313 (Specific toxic chemical listings):

Substance is not listed.

· TSCA (Toxic Substances Control Act):

Substance is listed.

· Canadian substance listings:

· Canadian Domestic Substances List (DSL)

Substance is listed.

· Canadian Ingredient Disclosure list (limit 0.1%)

Substance is not listed.

· Canadian Ingredient Disclosure list (limit 1%)

Substance is not listed.

· GHS label elements

The substance is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms



GHS02 GHS05 GHS06

· Signal word Danger

· Hazard-determining components of labeling:

sodium tetrahydroborate

· Hazard statements

In contact with water releases flammable gases which may ignite spontaneously.

Toxic if swallowed or in contact with skin.

Causes severe skin burns and eye damage.

· Precautionary statements

Do not allow contact with water.

IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Store locked up.

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

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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· Department issuing SDS:

Bio-Rad Laboratories GmbH
Heidemannstrasse 164
D-80939 Munich

· Contact:

Technical Support:
E-Mail: cts-ce@bio-rad.com

· Abbreviations and acronyms:

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organisation
ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative

· * Data compared to the previous version altered.

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