AssayGenie

SAFETY DATA SHEET

***Version**: 1.0* ***Issue Date:** 20-10-2026* ***Revision Date:** 20-10-2026*

Section 1: Identification

1.1. Product Identifier:

Product Codes: BR00004

Product Name: β-Hydroxybutyrate Dehydrogenase (BDH) Activity Assay Kit

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

Identified use:
Laboratory reagent kit for in vitro quantitative determination of the stated analyte by enzyme-linked immunosorbent assay. Professional laboratory use only, by trained personnel.
Uses advised against: not for diagnostic or therapeutic procedures in humans or animals; not for food, cosmetic or household use; not for administration to humans or animals.

Pure substance/mixture: Mixture

1.3. Details of the supplier of the safety data sheet:
Assay Genie
25 Windsor Place
D02VY42
Dublin 2
Ireland
+353 (01) 8879802

For information about this SDS, please contact: techsupport@assaygenie.com

1.4. Emergency Telephone Number:
Contact the national poisons information centre or emergency service for the country of use.

Europe: A directory of centres is maintained by the European Association of Poisons Centres and Clinical Toxicologists (EAPCCT)
United Kingdom: general public dial 111 (England, Scotland and Wales); healthcare professionals contact the National Poisons Information Service (NPIS)
United States: Poison Help, 1-800-222-1222 (24 hours)
Canada: 1-844-POISON-X / 1-844-764-7669 (24 hours); Québec 1-800-463-5060
Australia: Poisons Information Centre, 13 11 26 (24 hours)
New Zealand: National Poisons Centre, 0800 764 766 (24 hours)
Elsewhere: consult the World Health Organization world directory of poisons centres

Section 2: Hazard(s) Identification

2.1. Classification of the substance or mixture
This product is a kit made up of separately packaged components. Classification according to Regulation (EC) No 1272/2008 (CLP) is given per component.

10x Cell Lysis Solution: Skin Irrit. 2, H315; Eye Dam. 1, H318; Aquatic Acute 1, H400; Aquatic Chronic 2, H411; ED ENV 1, EUH430

All other components (BDH Assay Solution, 10x BDH Substrate): Not classified.

2.2. Label elements
10x Cell Lysis Solution
Hazard pictograms: GHS05 (corrosion), GHS09 (environment)

Signal word: Danger
Hazardous component(s) for labelling: Octylphenol ethoxylate (Triton™ X-100)
Hazard statements:
H315 Causes skin irritation.
H318 Causes serious eye damage.
H400 Very toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.
EUH430 May cause endocrine disruption in the environment.
Precautionary statements:
P273 Avoid release to the environment.
P280 Wear protective gloves/eye protection/face protection.
P302+P352 IF ON SKIN: Wash with plenty of water.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P391 Collect spillage.
P501 Dispose of contents/container in accordance with local/national regulations.

Inner packagings of 125 ml or less may use the reduced labelling permitted under Annex I, section 1.5.2 of Regulation (EC) No 1272/2008.

2.3. Other hazards
Contains octylphenol ethoxylate, which is identified as having endocrine-disrupting properties for the environment (REACH Article 57(f); Candidate List of Substances of Very High Concern). It is not considered PBT or vPvB.

Section 3: Composition/ Information on Ingredients

3.2. Mixtures

Ingredients present in the kit components (one row per chemical), with classification according to Regulation (EC) No 1272/2008 (classification of the pure substance unless stated). Concentration is not required for ingredients that are not classified (n/a):

Component / Ingredient	CAS No. / EC No.	Concentration (% w/w)	Classification (EC) No 1272/2008
10x Cell Lysis Solution Octylphenol ethoxylate (Triton™ X-100)	9036-19-5 / polymer – not listed	n/a	Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Dam. 1, H318; Aquatic Acute 1, H400 (M=10); Aquatic Chronic 1, H410 (M=1); ED ENV 1, EUH430
BDH Assay Solution Iodonitrotetrazolium chloride (INT)	146-68-9 / 205-676-2	< 1	Flam. Sol. 1, H228; STOT SE 2, H371; STOT SE 3, H335 (as solid)
BDH Assay Solution Dimethyl sulfoxide (DMSO)	67-68-5 / 200-664-3	n/a	Not classified
Buffer / assay solutions Tris base	77-86-1 / 201-064-4	n/a	Not classified

INT is present in the assay solution in dissolved form well below its aqueous solubility limit (< 1 %), below the concentration limits that would trigger classification of the component.

Full text of H-statements in this section: H302 Harmful if swallowed; H315 Causes skin irritation; H318 Causes serious eye damage; H400 Very toxic to aquatic life; H410 Very toxic to aquatic life with long lasting effects; EUH430 May cause endocrine disruption in the environment; H228 Flammable solid; H371 May cause damage to organs; H335 May cause respiratory irritation.

SCL = specific concentration limit; M = multiplying factor. Concentrations marked TBC have not been disclosed by the manufacturer and must be confirmed before release.

Section 4: First-Aid Measures

4.1. Description of first aid measures

General advice: Move out of the danger area. Show this safety data sheet to the doctor in attendance.

If inhaled: Remove person to fresh air and keep comfortable for breathing. If breathing is difficult or symptoms persist, call a doctor.

In case of skin contact: Take off contaminated clothing. Wash skin with plenty of water. If skin irritation occurs, get medical advice.

In case of eye contact: Rinse immediately and cautiously with plenty of water for at least 15 minutes, holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing. Call an ophthalmologist immediately.

If swallowed: Rinse mouth with water. Do not induce vomiting. Consult a doctor if feeling unwell.

4.2. Most important symptoms and effects, both acute and delayed
Lysis/sample buffer concentrate: skin irritation; risk of serious damage to eyes.

4.3. Indication of any immediate medical attention and special treatment needed
Treat symptomatically. Immediate medical attention is required after eye contact, skin contact or ingestion of the corrosive / eye-damaging components.

Section 5: Fire-Fighting Measures

5.1. Extinguishing media
Suitable extinguishing media: Water spray, carbon dioxide (CO_2), dry chemical powder or alcohol-resistant foam. Use extinguishing measures appropriate to the surrounding fire.
Unsuitable extinguishing media: No limitations are known for this kit.

5.2. Special hazards arising from the substance or mixture
The kit components are predominantly aqueous solutions and are not flammable. In a fire, hazardous decomposition products may be formed, including carbon oxides, nitrogen oxides (NOx), sulfur oxides.

5.3. Advice for firefighters
Wear self-contained breathing apparatus and full protective clothing. Prevent fire-fighting water from entering drains or water courses (the kit contains components that are hazardous to the aquatic environment).

Section 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures
Wear the personal protective equipment described in Section 8. Avoid contact with skin and eyes and avoid breathing vapours or mist. Ensure adequate ventilation. Keep unprotected persons away.

6.2. Environmental precautions
Do not allow the product to enter drains, surface water or groundwater. Given the small volumes supplied, a spill is unlikely to present a significant environmental risk if cleaned up promptly.

6.3. Methods and material for containment and cleaning up
Absorb spills with an inert, liquid-binding material (e.g. sand, diatomaceous earth, universal binder) and place in a suitable, labelled container for disposal according to Section 13. Clean the affected area thoroughly with water.

6.4. Reference to other sections
For personal protection see Section 8. For disposal see Section 13.

Section 7: Handling and Storage

7.1. Precautions for safe handling
For professional laboratory use only, by trained personnel. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke in the work area. Wash hands after handling. Follow good laboratory practice.
Protect assay solutions from light during preparation and use. Keep reagents on ice while working.

7.2. Conditions for safe storage, including any incompatibilities
Keep containers tightly closed in a dry, well-ventilated place. Store each component as follows:
BDH Assay Solution (5 ml (100 wells)): -80 °C – Protect from light
10x BDH Substrate (0.5 ml): -20 °C short / -80 °C long
10x Cell Lysis Solution (25 ml): RT – Re-dissolve precipitate in warm water
Avoid repeated freeze–thaw cycles. Store away from strong oxidising agents.

7.3. Specific end use(s)
Laboratory reagent kit for research use. Not for diagnostic or therapeutic procedures.

Section 8: Exposure Controls/Personal Protection

8.1. Control parameters
The kit does not contain substances with occupational exposure limit values at concentrations requiring monitoring.

8.2. Exposure controls
Appropriate engineering controls: Use in a well-ventilated laboratory. A fume hood is not normally required for the volumes supplied; use one if aerosols or vapours may be generated.
Eye/face protection: Tightly fitting safety goggles (EN 166).
Hand protection: Nitrile rubber gloves tested to EN ISO 374 (minimum thickness 0.11 mm). Inspect gloves before use and replace if contaminated.
Body protection: Laboratory coat.
Respiratory protection: Not required under normal conditions of use with adequate ventilation.
Environmental exposure controls: Do not let the product enter drains.

Section 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties
Physical state: Liquid (aqueous solutions)
Colour: Component dependent; not determined
Odour: Not determined
Melting point/freezing point: Approx. 0 °C (aqueous solutions)
Boiling point or initial boiling point and boiling range: Approx. 100 °C (aqueous solutions)
Flammability: Not flammable
Lower and upper explosion limit: Not applicable
Flash point: Not applicable (aqueous solutions)
Auto-ignition temperature: Not applicable
Decomposition temperature: Not determined
pH: Components: buffered, not determined
Kinematic viscosity: Not determined

Solubility: Miscible with water
Partition coefficient n-octanol/water: Not applicable (mixture)
Vapour pressure: Not determined
Density and/or relative density: Approx. 1 g/cm³
Relative vapour density: Not determined
Particle characteristics: Not applicable

9.2. Other information
Explosive properties: none. Oxidising properties: none. No further relevant data available.

Section 10: Stability and Reactivity

10.1. Reactivity
No hazardous reactions are known under normal conditions of use.

10.2. Chemical stability
Stable under the recommended storage conditions (see Section 7).

10.3. Possibility of hazardous reactions
None known.

10.4. Conditions to avoid
Excessive heat, direct light (light-sensitive assay solutions) and repeated freeze–thaw cycles.

10.5. Incompatible materials
Strong oxidising agents.

10.6. Hazardous decomposition products
Under fire conditions: carbon oxides, nitrogen oxides, sulfur oxides.

Section 11: Toxicological Information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008
No toxicological studies have been performed on the kit or its components. The assessment is based on the ingredients and calculation methods of Regulation (EC) No 1272/2008.
Acute toxicity: Based on available data, the classification criteria are not met. Octylphenol ethoxylate: ATE oral 500 mg/kg; calculated ATE of the lysis/sample buffer concentrate > 2000 mg/kg.
Skin corrosion/irritation: Lysis/sample buffer concentrate: causes skin irritation (Skin Irrit. 2). Other components: Based on available data, the classification criteria are not met.
Serious eye damage/irritation: Lysis/sample buffer concentrate: causes serious eye damage (Eye Dam. 1). Other components: Based on available data, the classification criteria are not met.
Respiratory or skin sensitisation: Based on available data, the classification criteria are not met.
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Carcinogenicity: Based on available data, the classification criteria are not met. No component is listed as a carcinogen at ≥ 0.1 %.
Reproductive toxicity: Based on available data, the classification criteria are not met.
STOT – single exposure: Based on available data, the classification criteria are not met.
STOT – repeated exposure: Based on available data, the classification criteria are not met.

Aspiration hazard: Based on available data, the classification criteria are not met.

11.2. Information on other hazards
Endocrine disrupting properties: The mixture does not contain components considered to have endocrine-disrupting properties for human health at levels of 0.1 % or higher.
Other information: Handle in accordance with good industrial hygiene and safety practice.

Section 12: Ecological Information

12.1. Toxicity
Octylphenol ethoxylate is very toxic to aquatic life (Aquatic Acute 1, M=10; Aquatic Chronic 1). The lysis/sample buffer concentrate is classified as Aquatic Acute 1 and Aquatic Chronic 2.

12.2. Persistence and degradability
No data available for the mixture. Octylphenol ethoxylates degrade to octylphenol, which is persistent in the environment.

12.3. Bioaccumulative potential
No data available for the mixture. Significant bioaccumulation is not expected.

12.4. Mobility in soil
No data available. Components are water-soluble and may be mobile in soil.

12.5. Results of PBT and vPvB assessment
The mixture does not contain substances assessed as PBT or vPvB at levels of 0.1 % or higher.

12.6. Endocrine disrupting properties
Contains octylphenol ethoxylate, identified as having endocrine-disrupting properties for the environment (ED ENV 1, EUH430; REACH Candidate List).

12.7. Other adverse effects
No further information available. Avoid release to the environment.

Section 13: Disposal Considerations

13.1. Waste treatment methods
Dispose of unused product, residues and contaminated packaging in accordance with Directive 2008/98/EC and local/national regulations, using a licensed waste disposal contractor.
Do not discharge to drains. Collect hazardous components separately. Suggested European Waste Catalogue (EWC) code: 16 05 06* – laboratory chemicals consisting of or containing hazardous substances.
Samples and reagents that have been in contact with biological material should be treated as potentially infectious waste.
Contaminated packaging: empty containers should be rinsed before recycling or disposal.

Section 14: Transport Information

14.1. UN number or ID number: Not regulated (ADR/RID, IMDG, IATA)
14.2. UN proper shipping name: Not regulated
14.3. Transport hazard class(es): Not regulated
14.4. Packing group: Not regulated
14.5. Environmental hazards: The lysis/sample buffer concentrate meets the criteria for environmentally hazardous substances (UN 3082) but is exempt in single or inner packagings of ≤ 5 L (ADR/RID SP 375, IMDG 2.10.2.7, IATA SP A197).
14.6. Special precautions for user: None.
14.7. Maritime transport in bulk according to IMO instruments: Not applicable.
Ship components requiring −20 °C / −80 °C storage on dry ice or as appropriate; dry ice (UN 1845) is subject to its own transport requirements.

Section 15: Regulatory Information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
Regulation (EC) No 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878; Regulation (EC) No 1272/2008 (CLP); Directive 98/24/EC (chemical agents at work); Directive 2008/98/EC (waste).
REACH Candidate List (SVHC, Article 59): Octylphenol ethoxylate (4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated).
REACH Annex XIV (authorisation): Octylphenol ethoxylate – sunset date 04.01.2021. Use in scientific research and development is exempt from authorisation (REACH Article 56(3)); this kit is supplied for research use only.
REACH Annex XVII (restrictions): Entry 3 (octylphenol ethoxylate) – not relevant to the intended laboratory use.
Seveso III (Directive 2012/18/EU): Hazard category E1/E2 (environment) may apply to the components; quantities supplied are far below qualifying thresholds.
Regulation (EU) 2019/1021 (persistent organic pollutants): Not applicable.
Regulation (EU) 2024/590 (ozone-depleting substances): Not applicable.

15.2. Chemical safety assessment
A chemical safety assessment has not been carried out for this mixture.

Section 16: Other Information

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This company shall not be held liable for any damage resulting from handling or from contact with the above product. This material must only be handled by suitably qualified, experienced scientists in appropriately equipped and authorized facilities. The above information is believed to be correct but does not purport to be all-inclusive and should be used as a guide only for experienced personnel. Always consult your safety advisor and follow appropriate local and national safety legislation. The absence of a warning must not, under any circumstances, be taken to mean that no hazard exists.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

****End Of MSDS****