# SAFETY DATA SHEET

## 1. Identification

**Product identifier** **VITEK-MS-CHCA**

**Other means of identification**

**SDS number** 1026

**Product code** 411071 / 411025

**Recommended use** In vitro diagnostic medical device

**Recommended restrictions** None known.

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer**

**Company name** bioMérieux SA

**Address** Chemin de l'Orme - 69280 Marcy-l'Etoile - France

**Phone** +33(0)478877656

**Fax** +(1) 919 470 6819

**Email** gcs_idast@biomerieux.com

**D_Supplier**

**Company name** bioMérieux Inc

**Address** 100 Rodolphe Street - Durham, NC 27712

**Telephone** For information call : (800) 682-2666

**Website** http://www.biomerieux-usa.com/index.htm

**Emergency telephone number** 1-800-424-9300 (Chemtrec) or Call your local Poison Control Center

## 2. Hazard(s) identification

| | | |
|---|---|---|
| **Physical hazards** | Flammable liquids | Category 2 |
| **Health hazards** | Acute toxicity, oral | Category 4 |
| | Acute toxicity, dermal | Category 4 |
| | Skin corrosion/irritation | Category 2 |
| | Serious eye damage/eye irritation | Category 1 |
| | Specific target organ toxicity, single exposure | Category 3 respiratory tract irritation |
| **Environmental hazards** | Hazardous to the aquatic environment, long-term hazard | Category 2 |
| **OSHA defined hazards** | Not classified. | |

**Label elements**

**Signal word** Danger

**Hazard statement** Highly flammable liquid and vapor. Harmful if swallowed. Causes skin irritation. Causes serious eye damage. May cause respiratory irritation. Toxic to aquatic life with long lasting effects.

**Precautionary statement**

**Prevention** Wear protective gloves/protective clothing/eye protection/face protection.

**Response** IF ON SKIN: Wash with plenty of soap and water. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

| | |
|---|---|
| **Storage** | Store in a well-ventilated place. Keep container tightly closed. |
| **Disposal** | Not available. |
| **Hazard(s) not otherwise classified (HNOC)** | Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion. |
| **Supplemental information** | None. |

## 3. Composition/information on ingredients

**Mixtures**

| Chemical name | Common name and synonyms | CAS number | % |
|---|---|---|---|
| ETHANOL | | 64-17-5 | 28.16 |
| ACETONITRILE | | 75-05-8 | 28.02 |
| TRIFLUOROACETIC ACID | | 76-05-1 | 4.75 |
| Alpha-cyano-4-hydroxy-cinnamic acid | | 28166-41-8 | 3.42 |
| Other components below reportable levels | | | 35.65 |

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

## 4. First-aid measures

| | |
|---|---|
| **Inhalation** | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. |
| **Skin contact** | Take off immediately all contaminated clothing. Wash with plenty of soap and water. For minor skin contact, avoid spreading material on unaffected skin. Get medical attention if irritation develops and persists. |
| **Eye contact** | Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately. |
| **Ingestion** | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not induce vomiting without advice from poison control center. Do not use mouth-to-mouth method if victim ingested the substance. Never give anything by mouth to a victim who is unconscious or is having convulsions. |
| **Most important symptoms/effects, acute and delayed** | Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation. May cause redness and pain. |
| **Indication of immediate medical attention and special treatment needed** | Symptoms may be delayed. |
| **General information** | Take off immediately all contaminated clothing. If you feel unwell, seek medical advice (show the label where possible). |

## 5. Fire-fighting measures

| | |
|---|---|
| **Suitable extinguishing media** | Alcohol resistant foam. Carbon dioxide (CO2). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only. |
| **Unsuitable extinguishing media** | Do not use water jet as an extinguisher, as this will spread the fire. |
| **Specific hazards arising from the chemical** | Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. Material will float and may ignite on surface of water. During fire, gases hazardous to health may be formed. |
| **Special protective equipment and precautions for firefighters** | Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| **Fire fighting equipment/instructions** | In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. |
| **General fire hazards** | Highly flammable liquid and vapor. |

## 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

Keep unnecessary personnel away. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Ventilate closed spaces before entering them. Use appropriate containment to avoid environmental contamination. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

**Methods and materials for containment and cleaning up**

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Keep combustibles (wood, paper, oil, etc.) away from spilled material.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

**Environmental precautions**

Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases. Use appropriate containment to avoid environmental contamination.

## 7. Handling and storage

**Precautions for safe handling**

Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Handling operations that can promote accumulation of static charges include but are not limited to: mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations. Take precautionary measures against static discharges. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

**Conditions for safe storage, including any incompatibilities**

Keep away from heat, sparks and open flame. Eliminate sources of ignition. Avoid spark promoters. These alone may be insufficient to remove static electricity. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

**Occupational exposure limits**

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

| Components | Type | Value |
|---|---|---|
| ACETONITRILE (CAS 75-05-8) | PEL | 70 mg/m3<br>40 ppm |
| ETHANOL (CAS 64-17-5) | PEL | 1900 mg/m3<br>1000 ppm |

**US. ACGIH Threshold Limit Values**

| Components | Type | Value |
|---|---|---|
| ACETONITRILE (CAS 75-05-8) | TWA | 20 ppm |
| ETHANOL (CAS 64-17-5) | STEL | 1000 ppm |

**US. NIOSH: Pocket Guide to Chemical Hazards**

| Components | Type | Value |
|---|---|---|
| ACETONITRILE (CAS 75-05-8) | TWA | 34 mg/m3<br>20 ppm |
| ETHANOL (CAS 64-17-5) | TWA | 1900 mg/m3<br>1000 ppm |

**Biological limit values**

No biological exposure limits noted for the ingredient(s).

**Exposure guidelines**

**US - California OELs: Skin designation**

| | |
|---|---|
| ACETONITRILE (CAS 75-05-8) | Can be absorbed through the skin. |

**US - Minnesota Haz Subs: Skin designation applies**

| | |
|---|---|
| ACETONITRILE (CAS 75-05-8) | Skin designation applies. |

**US ACGIH Threshold Limit Values: Skin designation**

| | |
|---|---|
| ACETONITRILE (CAS 75-05-8) | Can be absorbed through the skin. |

**Appropriate engineering controls** Eye wash facilities and emergency shower must be available when handling this product. Ensure adequate ventilation, especially in confined areas.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Wear safety glasses with side shields (or goggles) and a face shield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

**Skin protection**

**Hand protection** Use protective gloves made of: Nitrile.

**Other** Use chemical splash goggles and face shield (ANSI Z87.1 or approved equivalent).

**Respiratory protection** Do not breathe dust/fume/gas/mist/vapors/spray. If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

**Thermal hazards** Not available.

**General hygiene considerations** When using do not smoke. Keep away from food and drink.

## 9. Physical and chemical properties

| | |
|---|---|
| **Appearance** | Liquid. |
| **Physical state** | Liquid. |
| **Form** | Liquid. |
| **Color** | Clear colorless or nearly colorless |
| **Odor** | Not available. |
| **Odor threshold** | Not available. |
| **pH** | Not available. |
| **Melting point/freezing point** | Not available. |
| **Initial boiling point and boiling range** | Not available. |
| **Flash point** | Not available. |
| **Evaporation rate** | Not available. |
| **Flammability (solid, gas)** | Not available. |

**Upper/lower flammability or explosive limits**

| | |
|---|---|
| **Flammability limit - lower (%)** | Not available. |
| **Flammability limit - upper (%)** | Not available. |
| **Explosive limit - lower (%)** | Not available. |
| **Explosive limit - upper (%)** | Not available. |
| **Vapor pressure** | Not available. |
| **Vapor density** | Not available. |
| **Relative density** | Not available. |

**Solubility(ies)**

| | |
|---|---|
| **Solubility (water)** | Not available. |
| **Partition coefficient (n-octanol/water)** | Not available. |
| **Auto-ignition temperature** | Not available. |
| **Decomposition temperature** | Not available. |

| | |
|---|---|
| **Viscosity** | Not available. |

## 10. Stability and reactivity

| | |
|---|---|
| **Reactivity** | Not available. |
| **Chemical stability** | Not available. |
| **Possibility of hazardous reactions** | Hazardous polymerization does not occur. |
| **Conditions to avoid** | Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials. |
| **Incompatible materials** | Strong oxidizing agents. |
| **Hazardous decomposition products** | Not available. |

## 11. Toxicological information

**Information on likely routes of exposure**

| | |
|---|---|
| **Inhalation** | May cause irritation to the respiratory system. |
| **Skin contact** | Toxic in contact with skin. Causes skin irritation. |
| **Eye contact** | Causes serious eye damage. |
| **Ingestion** | Harmful if swallowed. |
| **Symptoms related to the physical, chemical and toxicological characteristics** | Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation. May cause redness and pain. |

**Information on toxicological effects**

**Acute toxicity** Toxic in contact with skin. Harmful if swallowed. May cause respiratory irritation.

| Components | Species | Test Results |
|---|---|---|
| ACETONITRILE (CAS 75-05-8) | | |
| **Acute** | | |
| **Dermal** | | |
| LD50 | Rabbit | 390 mg/kg |
| **Inhalation** | | |
| LC50 | Guinea pig | 5655 ppm, 4 Hours |
| | Mouse | 2693 ppm, 1 Hours |
| | Rabbit | 2825 ppm, 4 Hours |
| | Rat | 7500 ppm, 8 Hours |
| | | 330 ppm, 90 Days |
| **Oral** | | |
| LD50 | Guinea pig | 140 mg/kg |
| | Mouse | 269 mg/kg |
| | Rat | 175 mg/kg |
| ETHANOL (CAS 64-17-5) | | |
| **Acute** | | |
| **Inhalation** | | |
| LC50 | Mouse | 39 mg/l, 4 Hours |
| | Rat | 20000 ppm, 10 Hours |
| **Oral** | | |
| LD50 | Dog | 5.5 g/kg |
| | Guinea pig | 5.6 g/kg |
| | Mouse | 3450 mg/kg |
| | Rat | 6.2 g/kg |

| Components | Species | Test Results |
|---|---|---|
| TRIFLUOROACETIC ACID (CAS 76-05-1) | | |
| **Acute** | | |
| **Inhalation** | | |
| LC50 | Mouse | 13.5 mg/l |
| | Rat | 10 mg/l |
| **Oral** | | |
| LD50 | Rat | 200 mg/kg |

* Estimates for product may be based on additional component data not shown.

**Skin corrosion/irritation** Causes skin irritation.

**Serious eye damage/eye irritation** Causes serious eye damage.

**Respiratory or skin sensitization**

**Respiratory sensitization** Not available.

**Skin sensitization** Not available.

**Germ cell mutagenicity** Not available.

**Carcinogenicity** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Not available.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**US. National Toxicology Program (NTP) Report on Carcinogens**

Not available.

**Reproductive toxicity** Not available.

**Specific target organ toxicity - single exposure** May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure** Not available.

**Aspiration hazard** Not available.

## 12. Ecological information

**Ecotoxicity** Toxic to aquatic life with long lasting effects.

| Product | | Species | Test Results |
|---|---|---|---|
| VITEK-MS-CHCA | | | |
| **Aquatic** | | | |
| Crustacea | EC50 | Daphnia | 23800.123 mg/l, 48 hours estimated |
| Fish | LC50 | Fish | 3934.8665 mg/l, 96 hours estimated |

| Components | | Species | Test Results |
|---|---|---|---|
| ACETONITRILE (CAS 75-05-8) | | | |
| **Aquatic** | | | |
| Fish | LC50 | Fathead minnow (Pimephales promelas) | > 100 mg/l, 96 hours |
| ETHANOL (CAS 64-17-5) | | | |
| **Aquatic** | | | |
| Crustacea | EC50 | Water flea (Daphnia magna) | 7.7 - 11.2 mg/l, 48 hours |
| Fish | LC50 | Fathead minnow (Pimephales promelas) | > 100 mg/l, 96 hours |

* Estimates for product may be based on additional component data not shown.

**Persistence and degradability** Not available.

**Bioaccumulative potential** Not available.

**Partition coefficient n-octanol / water (log Kow)**

| | |
|---|---|
| ACETONITRILE | -0.34 |
| ETHANOL | -0.31 |

| | |
|---|---|
| **Mobility in soil** | Not available. |
| **Other adverse effects** | Not available. |

## 13. Disposal considerations

| | |
|---|---|
| **Disposal instructions** | Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Dispose of contents/container in accordance with local/regional/national/international regulations. |
| **Local disposal regulations** | Dispose in accordance with all applicable regulations. |
| **Hazardous waste code** | The waste code should be assigned in discussion between the user, the producer and the waste disposal company. |
| **Waste from residues / unused products** | Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). |
| **Contaminated packaging** | Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. |

## 14. Transport information

**DOT**

| | |
|---|---|
| **UN number** | UN2924 |
| **UN proper shipping name** | Flammable liquids, corrosive, n.o.s. (ACETONITRILE RQ = 17844 LBS, TRIFLUOROACETIC ACID), MARINE POLLUTANT |
| **Transport hazard class(es)** | |
| **Class** | 3 |
| **Subsidiary risk** | 8 |
| **Label(s)** | 3, 8 |
| **Packing group** | III |
| **Environmental hazards** | |
| **Marine pollutant** | Yes |
| **Special precautions for user** | Read safety instructions, SDS and emergency procedures before handling. |
| **Special provisions** | B1, IB3, T7, TP1, TP28 |
| **Packaging exceptions** | 150 |
| **Packaging non bulk** | 203 |
| **Packaging bulk** | 242 |

**IATA**

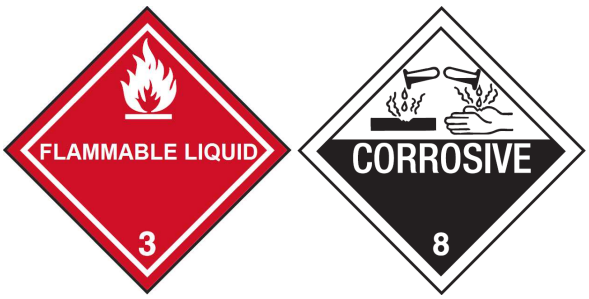
| | |
|---|---|
| **UN number** | UN2924 |
| **UN proper shipping name** | Flammable liquid, corrosive, n.o.s. (ACETONITRILE, TRIFLUOROACETIC ACID) |
| **Transport hazard class(es)** | |
| **Class** | 3 |
| **Subsidiary risk** | 8 |
| **Packing group** | III |
| **Environmental hazards** | Yes |
| **ERG Code** | 3C |
| **Special precautions for user** | Read safety instructions, SDS and emergency procedures before handling. |
| **Other information** | |
| **Passenger and cargo aircraft** | Allowed. |
| **Cargo aircraft only** | Allowed. |

**IMDG**

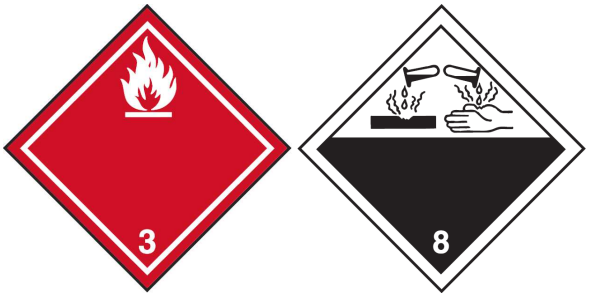
| | |
|---|---|
| **UN number** | UN2924 |
| **UN proper shipping name** | FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ACETONITRILE, TRIFLUOROACETIC ACID), MARINE POLLUTANT |
| **Transport hazard class(es)** | |
| **Class** | 3 |
| **Subsidiary risk** | 8 |
| **Packing group** | III |
| **Environmental hazards** | |
| **Marine pollutant** | Yes |
| **EmS** | F-E, S-C |
| **Special precautions for user** | Read safety instructions, SDS and emergency procedures before handling. |

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not available.

**DOT**




**IATA; IMDG**




**Marine pollutant**

**General information** IMDG Regulated Marine Pollutant.

## 15. Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
One or more components are not listed on TSCA.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

| | |
|---|---|
| ACETONITRILE (CAS 75-05-8) | Listed. |
| ETHANOL (CAS 64-17-5) | Listed. |

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories** Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** No

**SARA 313 (TRI reporting)**

| Chemical name | CAS number | % by wt. |
|---|---|---|
| ACETONITRILE | 75-05-8 | 28.02 |

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

ACETONITRILE (CAS 75-05-8)

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace**

ETHANOL (CAS 64-17-5) Low priority

**US state regulations**

**US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

**US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

ACETONITRILE (CAS 75-05-8)

**US. Massachusetts RTK - Substance List**

ACETONITRILE (CAS 75-05-8)
ETHANOL (CAS 64-17-5)

**US. New Jersey Worker and Community Right-to-Know Act**

ACETONITRILE (CAS 75-05-8)
ETHANOL (CAS 64-17-5)
TRIFLUOROACETIC ACID (CAS 76-05-1)

**US. Pennsylvania Worker and Community Right-to-Know Law**

ACETONITRILE (CAS 75-05-8)
ETHANOL (CAS 64-17-5)

**US. Rhode Island RTK**

ACETONITRILE (CAS 75-05-8)

**US. California Proposition 65**

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

**US - California Proposition 65 - CRT: Listed date/Carcinogenic substance**

ETHANOL (CAS 64-17-5) Listed: April 29, 2011
Listed: July 1, 1988

**US - California Proposition 65 - CRT: Listed date/Developmental toxin**

ETHANOL (CAS 64-17-5) Listed: October 1, 1987

**International Inventories**

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|---|---|---|
| Australia | Australian Inventory of Chemical Substances (AICS) | No |
| Canada | Domestic Substances List (DSL) | No |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | No |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | Yes |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | No |
| New Zealand | New Zealand Inventory | No |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | No |

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|---|---|---|
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | No |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

| | |
|---|---|
| **Issue date** | 04-12-2015 |
| **Revision date** | 09-25-2015 |
| **Version #** | 03 |
| **Disclaimer** | bioMérieux SA cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. |
| **Revision Information** | Physical & Chemical Properties: Multiple Properties<br>Transport Information: Proper Shipping Name/Packing Group<br>GHS: Classification |