SAFETY DATA SHEET (SDS)

SECTION 1: IDENTIFICATION OF PRODUCT (MIXTURE) AND SUPPLIER

Product Name: **GS HIV-2 EIA - Human Immunodeficiency Virus Type 2**

Product Number: **32536** (480 tests)
Catalog number(s) for replacement and/or separately purchased components that can be obtained for use with this kit and which are covered by this SDS include**: 25260, 25261, 26181** and **26182**.

Intended Use: The GS HIV-2 EIA is an Enzyme Immunoassay (EIA) for the detection of circulating antibodies to Human Immunodeficiency Virus Type 2 (HIV-2) in human serum or plasma, and is indicated as an aid in the diagnosis of infection with Human Immunodeficiency Virus Type 2 (HIV-2). The GS HIV-2 EIA is intended for manual use and also for use with the EVOLIS™ Automated Microplate System as an aid in the diagnosis of infection with HIV-2 or for follow-up testing for HIV-2 antibodies in blood donors.

Manufactured by: **Bio-Rad Laboratories, Inc.**

Address: 6565 185th Avenue NE, USA
Redmond, WA 98052-5039

Website: www.bio-rad.com

Phone Number: 1-800-2-BIORAD (1-800-224-6723); or 1-425-881-8300 (daytime PT)

SDS e-mail contact: ro-sds@bio-rad.com

Technical Information Contacts: Bio-Rad provides a toll free line for technical assistance, available 24 hours a day, 7 days a week. In the United States of America and Puerto Rico, call toll free 1-800-2-BIORAD (1-800-224-6723). *Outside the U.S.A., please contact your regional Bio-Rad office for assistance.*

Emergency Phone Number: This SDS is listed with **CHEMTREC 1-800-424-9300** (US) **/ 001-703-527-3887** (international – can be called collect)**.** Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT with this product.

SECTION 2: HAZARDS IDENTIFICATION -- HAZARDOUS COMPONENTS

This test kit should be handled only by qualified personnel trained in laboratory procedures and familiar with their potential hazards. Specific warnings are given in the instructions for use. The absence of a specific warning should not be interpreted as an indication of safety. The following information is furnished for those product hazardous constituents that require regulatory control or disclosure at the concentration found in the product. Refer to Section 16 for the full text of any solely abbreviated or coded hazard statements provided below and for the Key / legend to abbreviations and acronyms.

Component*	Contents
R1 HIV-2 Coated Microwell Plates 5 plates	- Microwell strips in a holder with adsorbed inactivated HIV-2. - **Potential residue of thimerosal** [$C_9H_9HgNaO_2S$] used as a production preservative aspirated prior to drying strips). - Tabs are labeled "Y" - Contains sealed pelletized desiccant packet(s): There are no health hazards associated with intact desiccant container; however, health hazards could result from dusts generated if the packet is cut, split or otherwise compromised and is crushed.
R2 Wash Solution Concentrate (30X); 2 bottles (120 mL) *Catalog No. 25261*	- **Sodium chloride** [(NaCl) CAS# 7647-14-5, EC No 231-598-3] aqueous solution with ≤ 2% **Tween 20** [($C_{58}H_{114}O_{26}$) CAS #9005-64-5, EC No 585-580-06-X] (clear liquid). Not subject to GHS, US HCS, EC CLP and analogous global GHS-based regulatory requirements in this product mixture and concentration.

Component*	Contents
C0 HIV-2 EIA Negative Control 1 vial (0.8 mL)	- Human serum/plasma, non-reactive for HBsAg and antibodies to HCV, HIV-1 and HIV-2. - Preserved with **0.1% sodium azide** [NaN_3], EC No 247-852-1 and CAS# 26628-22-8. Not subject to GHS, US HCS, EC CLP and analogous global GHS-based regulatory requirements without Cat 5 Acute Toxic designations in this product mixture and concentration.] - Preserved with **0.01% thimerosal** [$C_9H_9HgNaO_2S$], EC No 200-210-4, CAS# 54-64-8. Not subject to GHS, US HCS, EC CLP and analogous global GHS-based regulatory requirements in this product mixture and concentration. (< 0.1%). Requires hazardous waste disposal (US RCRA D009) - P501].
C1 HIV-2 EIA Positive Control 1 vial (0.8 mL)	- Heat-treated human serum/plasma containing HIV-2 immunoglobulin. - Non-reactive for HBsAg and antibodies to HCV. - Preserved with **0.1% sodium azide** [NaN_3], EC No 247-852-1 and CAS# 26628-22-8. Not subject to GHS, US HCS, EC CLP and analogous global GHS-based regulatory requirements without Cat 5 Acute Toxic designations in this product mixture and concentration. - Preserved with **0.01% thimerosal** [$C_9H_9HgNaO_2S$], CAS#54-64-8, EC No 200-210-4. Not subject to GHS, US HCS, EC CLP and analogous global GHS-based regulatory requirements in this product mixture and concentration. (< 0.1%). Requires hazardous waste disposal (US RCRA D009) - P501].
R3 HIV-2 EIA Conjugate Concentrate 1 vial (1.5 mL)	- Goat anti-human IgM and IgG horseradish peroxidase conjugated buffered solution with protein stabilizers. - Preserved with **0.01% thimerosal** [$C_9H_9HgNaO_2S$], CAS#54-64-8, EC No 200-210-4. Not subject to GHS, US HCS, EC CLP and analogous global GHS-based regulatory requirements in this product mixture and concentration. (< 0.1%). Requires hazardous waste disposal (US RCRA D009) - P501].
R4 HIV-2 EIA Conjugate Diluent 1 bottle (120 mL)	- Citrate buffer with protein stabilizers (normal goat sera) and red dye (food grade). - Preserved with **0.01% thimerosal** [$C_9H_9HgNaO_2S$], CAS#54-64-8, EC No 200-210-4. Not subject to GHS, US HCS, EC CLP and analogous global GHS-based regulatory requirements in this product mixture and concentration. (< 0.1%). Requires hazardous waste disposal (US RCRA D009) - P501].
R5 HIV-2 EIA Specimen Diluent Concentrate (10X) 1 bottle (120 mL)  **WARNING**	- Diluent for specimen; buffer with protein stabilizers and blue dye (food grade). - Preserved with **0.1% thimerosal** [$C_9H_9HgNaO_2S$], EC No 200-210-4, CAS# 54-64-8. GHS / US HCS / 2008/1272/EC Classification: WARNING; GHS07, GHS08; H317, H373; P273, P281; P314, P302 + P352, P333 + P313; P501
R8 Substrate Buffer, 1 bottle (120 mL) *Catalog No. 26181*	- Dilute **citric acid** ($C_6H_8O_7$, CAS# 79-92-9, EC No 201-069-1) **/ sodium acetate buffer**, (pH ~ 4.0, clear liquid). - **< 5% dimethylsulfoxide** [DMSO - C_2H_6OS], CAS# 67-68-5, EC No 200-644-3. - **< 0.1% hydrogen peroxide** [H_2O_2], CAS# 7722-84-1, EC No 231-765-0. Not subject to GHS, US HCS, EC CLP and analogous global GHS-based regulatory requirements in this product mixture and concentration.
R9 Chromogen (11X) 1 bottle (12 mL) *Catalog No. 26182*	- ≤ **0.25% 3,3',5,5' tetramethylbenzidine dihydrochloride** [TMB– $C_{16}H_{20}N_2$•2HCl], CAS# 207738-08-7, EC No 264-769-6. - ≤ **0.04 N hydrochloric acid** [~ 0.3% HCl, CAS# 7647-01-0, EC No 231-595-7] solution (pH ~ 1.5, clear liquid). Not subject to GHS, US HCS, EC CLP and analogous global GHS-based regulatory requirements in this product mixture and concentration.

Component*	Contents
R10 EIA Stopping Solution 1 bottle (120 mL) *Catalog No. 25260*  **DANGER!**	- **1N Sulfuric acid** [~4.4% w/w H_2SO_4], CAS# 7664-93-9, EC No 231-639-5 [pH ≤ 2, clear liquid]; Severely irritating to skin, corrosive to eyes. GHS \ US HCS \ EC CLP**:** DANGER! GHS05; H314; P280; P301 + P330 + P331, P305 + P351 + P338; P501.

* Replacement, optional and separately purchased component catalog numbers are provided in this column where available.

Markings according to the *United Nations* (UN) Globally Harmonized System (GHS), *United States* Hazard Communication Standard (US HCS), *European Community* (EC) 2008/1272/EC (EC CLP) guidelines and analogous GHS-based global regulations:

This product has been conservatively classified and labeled in accordance with *United Nations (UN)* GHS, *United States* Hazard Communication Standard (US HCS), related *European Community (EC)* 2008/1272/EC (EC CLP) guidelines and applicable analogous GHS-based global regulations. The following regulated hazardous chemical concentrations are found in product component(s):

Component R10 - **1N H_2SO_4** [4.4% w/w Sulfuric acid], CAS# 7664-93-9, EC No 231-639-5 (pH ≤ 2); severely irritating to skin, corrosive to eyes. *[This STOP solution has been evaluated with the CORROSITEX® test method to determine its corrosive potential and classification. The results of this testing classified this STOP solution as Class:* ***8,*** *Packing group* ***II (UN2796)]***

***Comprehensive GHS Based Classification*:** **Skin Corrosive Category 1B**
Serious eye damage Category 1

Label(s):

Signal Word: **DANGER!**

Label Hazard Statements:

H314	**Causes severe skin burns and eye damage.**

Precautionary Statements (*statements for product intended use and as codified on the product label):*

P280	Wear protective gloves / protective clothing / eye protection / face protection.
P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501	This material and its container must be disposed of as hazardous waste.

Supplemental Precautionary Statements *(additional precautions to consider relative to specific customer use):*

P308 + P313	If exposed or concerned: Get medical advice/ attention.
P405	Store locked up.

[Source: Raw Material vendor SDS, CCOHS databases and regulatory research]

Component R5 - **0.1% thimerosal** [$C_9H_9HgNaO_2S$], CAS# 54-64-8, EC No 200-210-4.

H373: May cause damage to organs through prolonged or repeated exposure.

[*STOT RE 2 and H373 required for SDS, label optional to 0.3% in US, but required to 0.1% per 2008/1272/EC and many other GHS-based regulations*.]

Comprehensive GHS Based Classification *[* denotes precautionary statements included on the product label]*:

Skin Sensitizer Category 1;
STOT RE Category 2

Label(s): **GHS08**  **GHS07** 

Signal Word: **WARNING**

Label Hazard Statement:

H317	**May cause an allergic skin reaction.**
H373	**May cause damage to organs through prolonged or repeated exposure.**

Precautionary Statements (statements for product intended use and as codified on the product label):

P273	Avoid release to the environment.
P280	Wear protective gloves / protective clothing / eye protection / face protection.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P314	Get medical advice/attention if you feel unwell.
P333 + P313	If skin irritation or rash occurs: Get medical advice/ attention.
P501	This material and its container must be disposed of as hazardous waste.

Supplemental Precautionary Statements (additional precautions to consider relative to specific customer use):

P202	Do not handle until all safety precautions have been read and understood.
P272	Contaminated work clothing should not be allowed out of the workplace.
P391	Collect spillage.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P308 + P313	IF exposed or concerned: Get medical advice/attention.

[Source: Raw Material vendor SDS, CCOHS databases and regulatory research]

Component R3, R4, C0 and C1 - **0.01% thimerosal** [$C_9H_9HgNaO_2S$], CAS#54-64-8, EC No 200-210-4 (dilution < 0.1%).

***Comprehensive GHS Based Classification*:** **Hazard Not Otherwise Classified**

Label(s): *No hazard labeling required (due to dilution).*

Signal Word: *No signal word required (due to dilution).*

Label Hazard Statement: *No hazard statement is required (due to dilution).*

Precautionary Statements (*statements for product intended use and as codified on the product label):*

P501	This material and its container must be disposed of as hazardous waste.

Supplemental Precautionary Statements *(additional precautions to consider relative to specific customer use):*

P272	Contaminated work clothing should not be allowed out of the workplace.
P273	*Avoid release to the environment.*
P280	Wear protective gloves / protective clothing / eye protection / face protection.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P333 + P313	If skin irritation or rash occurs: Get medical advice/ attention.

[Source: Raw Material vendor SDS, CCOHS databases and regulatory research]

NOTE: **0.1% Sodium Azide** concentration falls under the UN GHS Cat 5 Acute Toxic which is not recognized in much of the world. [Acute toxic Cat. 5 rating would be: Warning; H303, H313; P312].

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

The following information is furnished for those product hazardous constituents that require regulatory control or disclosure regardless of the concentration found in the product. Note that the information here is often based on data from the chemical raw material safety data sheet and literature (LD_{50}, exposure limits, etc.) Chemical constituents that do not require regulatory disclosure are not generally included here. This product contains a significantly diluted concentration in an aqueous solution, thus the assessment below has not considered the dilution reduction effect on the hazard. That hazard communication information is provided in Section 2 above. Some components were tested at the concentration found in the kit. In that case, the assessment is provided for the chemical dilution tested and the tested concentration will be provided at the beginning of the *Chemical Ingredient Data/Information* box. The UN GHS, US HCS, EC CLP and analogous GHS-based global regulation classifications were made according to the existing editions and expanded upon from company and literature data. Refer to section 16 for the full text of any *Comprehensive GHS-based Classification* statements coded below, for the list of sources utilized in the assessment and for the Key / legend to abbreviations and acronyms.

Chemical Ingredient Data / Information

Chemical Ingredient: Sulfuric acid

Chemical concentrations found in this product: **1 N (< 4.4% H_2SO_4 in water) in R10**

Data for Concentrated / 100% chemical used in the product mixture (concentration tested)**:**

CAS#: 7664-93-9 (Conc. sulfuric acid 100%)
EC No: 231-639-5 (100%)
Index No: 016-020-00-8 (100%)
Registration No: 01-2119458838-20-XXXX
RTECS#: WS5600000 (100%)

LD_{50} (oral-rat): 2,140 mg/kg
LC_{50} (inhalation-rat): 510 mg/m^3/2H
LD_{50} (skin-rabbit): NE
LC_{50} (96 hr-fish): Gambusia affinis (Mosquito fish) – 42 mg/l
pH value: 1.2 at 5 g/L

Skin corrosion/irritation: Skin - rabbit - Extremely corrosive and destructive to tissue.
Serious eye damage/eye irritation: Eyes - rabbit - Severe eye irritation
Chemical Formula: H_2SO_4 (100%)
Molecular weight: 98.08 g/mol (100%)
Synonyms/Trade Names: Acide sulfurique ;Acido solforico; BOV; Battery acid; Dihydrogen sulfate; Dipping acid; Electrolyte acid; Mattling acid; Oil of vitriol; Schwefelsaeureloesungen; Strong inorganic acid mists containing sulfuric acid; Sulfuric acid; Sulfuric acid, aerosol; Sulphuric acid; Vitriol Brown Oil; Zwavelzuuroplossingen

Raw Material GHS / US HCS / EC CLP Classification (100%):

DANGER!

Skin Corr. Cat. 1A, Eye Damage Cat. 1, Aquatic Acute Cat. 3, Aquatic Chronic Cat. 3

H314, H412

P264, P273, P280, P301 + P330 + P331, P303 + P361 + P353, P304 + P340, P305 + P351 + P338, P310, P363, P405, P501

[Source: Raw Material vendor SDS, CCOHS databases and regulatory research]

Chemical Ingredient Data / Information

Chemical Ingredient: Dimethyl-sulfoxide [DMSO]

Chemical concentrations found in this product: **≤ 5 % in R8, an aqueous solution**

Data for Concentrated / 100% chemical used in the product mixture (concentration tested)**:**

CAS#: 67-68-5 (100%)
EC No: 200-644-3 (100%)
RTECS#: PV6210000 (100%)
Index No: NA (100%)
Chemical Formula: C_2H_6OS (100%)
Molecular weight: 78.13 g/mol (100%)

LD_{50} (oral-rat): 14500 mg/kg (100%)
LC_{50} (inhalation-rat): 1600 mg/m^3 (4 hr) (100%)
LD_{50} (skin-rabbit): >5000 mg/m^3 (100%)
LC_{50} (96 hr-fish): NE mg/L (100%)
Flash point: 188-192°F / 86.7-88.9°C (100%)
Flammable limits: LEL/LFL is 3.5%; UEL/UFL is 42% vv in air (100%)

Synonyms/Trade Names: Dimethyl sulfoxide; Dimethyl sulphoxide; Dimexide; Dipirartril-tropico; DMS-70; DMS-90; DMSO; Dolicur; Domoso; Dromisol; Durasorb; A 10846; Deltan; Demeso; Demasorb; Demavet; Demsodrox; Dermasorb; Gamasol 90; Hyadur; Infiltrina; M 176, Methane, sulfinylbis-; Methylsulfinylmethane; Somipront; SQ 9453, Topsym; NSC-763; Rimso-50; Sulfinylbis(methane); Syntexan

Raw Material GHS / US HCS / EC CLP Classification (100%): *No Pictogram required*

WARNING
Fla. Liq. Cat. 4
H227
P210, P280, P370 + P378, P403 + P235, P501

[Source: Raw Material vendor SDS, CCOHS databases and regulatory research]

Chemical Ingredient: Citric acid

Chemical concentrations found in this product: **<.1.5% w/v in R8**

Data for Concentrated / 100% chemical used in the product mixture (concentration tested)**:**

CAS#: 77-92-9 (100%)
EC No: 201-069-1 (100%)
RTECS#: GE7350000 (100%)
Index No: NA (100%)

LD_{50} (oral-rat): 5400 mg/kg
LC_{50} (inhalation-rat): NE
LD_{50} (skin-rabbit): >2000 mg/kg

Toxicity to fish mortality LC_{50} - Leuciscus idus melanotus - 440 mg/l - 48 h Method: OECD Test Guideline 203
Chemical Formula: $C_6H_8O_7$ (100%)
pH value: 1.8 at ca.50 g/l at 25 °C (77 °F)
Molecular weight: 192.12 g/mol (100%)
Synonyms/Trade Names: Aciletten; Anhydrous citric acid; Citretten; Citro; 2-Hydroxy-1,2,3-propanetricarboxylic acid; beta-Hydroxytricarballylic acid; Kyselina citronova

Skin corrosion/irritation: Skin - rabbit - Mild skin irritation - OECD Test Guideline 404
Serious eye damage/eye irritation: Eyes - rabbit - Irritating to eyes. - OECD Test Guideline 405
Respiratory or skin sensitization: Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

Raw Material GHS / US HCS / EC CLP Classification (100%):

WARNING
Acute Tox. – skn Cat. 5, Skin Irrit. Cat. 1, Eye Irrit. Cat. 2A
H313, H316, H319
P264, P280, P305 + P351 + P338, P337 + P313

[Source: Raw Material vendor SDS, CCOHS databases and regulatory research]

Chemical Ingredient Data / Information

Chemical Ingredient: Hydrochloric acid

Chemical concentrations found in this product: **≤ 0.04N (< 0.4% v/v HCl) in R9**

Data for Concentrated / 100% chemical used in the product mixture (concentration tested)**:**

CAS#: 7647-01-0 (concentrate solution)
EC No: 231-595-7 (concentrate solution)
Index No: 017-002-01-X (concentrate solution)
RTECS#: MW4025000 (concentrate solution)
Chemical Formula: HCl (concentrate solution)
Molecular weight: 36.46 g/mol (concentrate solution)
pH value: highly acidic (30-50% concentrated solution)

LD_{50} (oral, rat): 700 mg/kg (unconfirmed)
LC_{50} (inhalation-rat): 3124 ppm/1H
LD_{50} (skin-rabbit): Greater than 5010 mg/kg (unconfirmed)
Fish LC_{50} – Bluegill/Sunfish – 282 mg/l – 48 h

Synonyms/Trade Names: Acide chlorhydrique; Acido cloridrico; Anhydrous hydrochloric acid; Chloorwaterstof; Chlorohydric acid; Chlorowodor; Chlorwasserstoff; Hydrochloride; Hydrogen chloride; Hydrogen chloride; Muriatic acid; Spirits of salt

LC_{50} (male rat): 1405 ppm (4-hour exposure; head-only); cited as 2810 ppm (1-hour exposure; head-only) (30-50% solution)
LC_{50} (male rat): 1562 ppm (4-hour exposure; whole-body); cited as 3124 ppm (1-hour exposure; whole-body) (30-50% solution)
Skin corrosion/irritation: Skin - rabbit - Causes burns. (30-50% solution)
Serious eye damage/eye irritation: Eyes - rabbit - Corrosive to eyes (30-50% solution)
IARC: Group 3: Not classifiable as to its carcinogenicity to humans (30-50% solution)

Raw Material GHS / US HCS / EC CLP Classification (100%):

DANGER!
Skin Corr. Cat. 1B, Eye Damage Cat. 1, STOT SE Cat. 3, Met. Corr. Cat. 1
H290, H314, H335
P234, P261, P264, P271, P280, P301 + P330 + P331, P303 + P361 + P353, P304 + P340, P305 + P351 + P338, P310, P363, P390, P403 + P233, P405, P406, P501

[Source: Raw Material vendor SDS, CCOHS databases and regulatory research]

Chemical Ingredient: 3,3',5,5'-Tetramethylbenzidine, Dihydrochloride

Chemical concentrations found in this product: **< 0.3% w/v in R9**

Data for Concentrated / 100% chemical used in the product mixture (concentration tested)**:**

CAS#: 207738-08-7 (54827-17-7 Free base) (100%)
EC No: 264-769-6 (100%)
RTECS#: DV2300000 (100%)
Chemical Formula: $C_{16}H_{20}N_2 \bullet 2HCl$ (100%)
Molecular weight: 313.27 g/mol (100%)
Synonyms/Trade Names: TMB

LD_{50} (ipr-mouse): 135 mg/kg (100%)
LD_{50} (oral-rat): NE
LC_{50} (inhalation-rat): NE
LD_{50} (skin-rabbit): NE
LC_{50} (96 hr-fish): NE (100%)

Raw Material GHS / US HCS / EC CLP Classification (100%): Not a dangerous substance according to GHS, US HCS, EC CLP and analogous global GHS-based regulatory requirements.

[Source: Raw Material vendor SDS, CCOHS databases and regulatory research]

Chemical Ingredient Data / Information

Chemical Ingredient: Sodium azide

Chemical concentrations found in this product: **0.1% w/v in components C0 and C1**

Data for Concentrated / 100% chemical used in the product mixture (concentration tested)**:**

CAS#: 26628-22-8 (100%)
EC No: 247-852-1 (100%)
Index No: 011-004-00-7 (100%)
RTECS#: VY8050000 (100%)
Chemical Formula: NaN_3 (100%)
Molecular weight: 65.01g/mol (100%)

LD_{50} (oral-rat): 27 mg/kg
LC_{50} (inhalation-rat): 37 mg/m^3
LD_{50} (skin-rat): 50 mg/kg (100%)
Fish LC_{50} – Lepomis macrochirus (Bluegill) – 0.68 mg/l – 96 h

Synonyms/Trade Names: Azide, sodium; Azoture de sodium; Azydek sodu; NSC 3072; Kazoe; Natriumazid; Natriummazide; NCI-C06462; Nemazyd; Sodium azide; Sodium, azoture de; Sodium, azoturo di, Smite; U-3886;

Raw Material GHS / US HCS / EC CLP Classification (100%):

DANGER!

Acute Tox. – oral. Cat. 2, Acute Tox. – skn. Cat. 1, Aquatic Acute Cat. 1, Aquatic Chronic Cat. 1
H300 + H310, H410
P264, P273, P280, P302 + P350, P310, P501

[Source: Raw Material vendor SDS, CCOHS databases and regulatory research]

Chemical Ingredient: Thimerosal

Chemical concentrations found in this product: **0.1% /v in components R5**
Chemical concentrations found in this product: **0.01% w/v in components C0, C1, R1, R3, and R4**

Data for chemical used in the product (concentration tested)**:**

CAS#: 54-64-8 (Thimerosal powder, 100%)
EC No: 200-210-4 (100%)
Index No: 080-004-00-7 (100%)
RTECS#: OV8400000 (100%) +

LD_{50} (oral-rat): 75 mg/kg
LC_{50} (inhalation-rat): NE
LD_{50} (skin-rabbit): NE
LC_{50} (96 hr-fish): Oncorhynchus mykiss (rainbow trout) – 21.2 mg/l

Serious eye damage/eye irritation: Eyes - rabbit - Mild eye irritation
Respiratory or skin sensitization: Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.
Chemical Formula: $C_9H_9HgNaO_2S$ (100%)
Molecular weight: 404.81 g/mol (100%)
Synonyms/Trade Names: Merthiolate Sodium, Sodium o-(ethylmercurithio)benzoate ; Ethylmercurithiosalicylic acid, sodium salt
CA Proposition 65: Chemical known to the State of California to cause reproductive toxicity.

Raw Material GHS / US HCS / EC CLP Classification (100%):

DANGER!

Acute Tox. – inh. Cat. 1, Acute Tox. – skn. Cat. 1, Acute Tox. – oral. Cat. 2, Eye Irrit. Cat. 2B, Aquatic Acute Cat. 1, Skin Sens. Cat. 1, Rep. Tox. Cat. 1B

H300 + H310, H317, H361, H320, H330, H400

P260, P264, P273, P280, P284, P302 + P350, P305 + P351 + P338, P308 + P313, P310, P501

[Source: Raw Material vendor SDS, CCOHS databases and regulatory research]

Biological Ingredient	Data / Information
Human Serum [Reactive and non-reactive in the Positive (C1) and Negative (C0) Control components respectively] 	**The human sera** in the components of this product were tested and found non-reactive for HBsAg and antibodies to HCV (Component C0 is also *negative* for antibodies to HIV-1/2). No known test method can offer complete assurance that HIV, hepatitis B or C virus or other infectious agents are absent. Moreover, patient blood samples tested with this kit represent an unknown, heightened hazard. Employ *Standard* and *Universal Precautions* when handling these reagents and all human blood, specimens or patient samples. Handle as if capable of transmitting infectious disease, in a Biosafety Level 2 lab, applying the guidelines from the current CDC/NIH *Biosafety in Microbiological and Biomedical Laboratories* or WHO *Laboratory Biosafety Manual*. Avoid splashing, spills and the generation of aerosols. Secure in secondary containment with proper biohazard labeling. Do not inhale mists or aerosols; avoid contact with skin, eyes, mucous membranes and clothing. In case of contact with eyes, immediately rinse with copious water and seek medical attention. Persons handling blood samples should have the option of receiving hepatitis B vaccination. Employ decontamination procedures, with appropriate decon agent/disinfectant (typically a 1:10 dilution of household bleach, 70-80% ethanol or isopropanol, an iodophor like 0.5% Wescodyne Plus (EPA Reg. #4959-16), an o-phenylphenol/amyphenol such as 0.8% Vesphene (EPA Reg. #1043-87), or equiv.), before discarding any materials utilized or returning equipment used to general use. Dispose of this material in accordance with local, regional, national and international regulations. Handle appropriately with the requisite Good Laboratory Practices, *Standard* and *Universal Precautions*. Persons handling blood samples should have the option of receiving hepatitis B vaccination.
Animal proteins	This material is of animal origin (bovine, goat and rabbit) and may be a potential contact irritant. Hazard Unknown. Handle as potentially infectious. The chemical, physical and toxicological properties have not been thoroughly investigated. Handle appropriately with the requisite Good Laboratory Practices, *Standard* and *Universal Precautions*. Dispose of this material in accordance with local, regional, national and international regulation.

NA: Not Applicable.
NE: Not Established or Unknown (unable to locate data).

Related product information:

- Refer to Section 16 for the full text of any Comprehensive GHS-based Classification statements coded above.
- Refer to Section 16 for the list of sources utilized in the assessment and the Key / legend to abbreviations and acronyms.
- No significant adverse health effects are expected by any route for the miscellaneous **Tween 20** [$C_{58}H_{114}O_{26}$, CAS #9005-64-5], **hydrogen peroxide** [H_2O_2, CAS# 7722-84-1,-≤ 0.1% v/v in R8], salts, sugars, buffers, water, animal sera and other chemicals found in the HRP conjugate, buffers with protein stabilizers, dyes, and sodium acetate solution, in the kit volumes and/or concentrations present [chemical or dilution is not subject to GHS, US HCS, EC CLP or other GHS-based hazard labeling].
- Component R1 contains **< 0.1% of Cobalt (II) Chloride** [CAS# 7646-79-9, EC No. 231-589-4], which is classified as an IARC Group 2B (possible human carcinogen) and EU Category 2 carcinogen, and **silica quartz** [CAS# 14808-60-7, EC No. 238-87-4], which in dust form is classified as an ACGIH Class A2 (suspected human carcinogen) and IARC Group 1 (carcinogenic to humans). This material is in a pelletized desiccant sealed packet within the plate pouch, which is unlikely to generate significant dust under normal conditions of use and is thus not typically considered a health hazard. However, health hazards could result from dusts generated if the packet is cut, split or otherwise compromised and a significant number of pellets were crushed to a powder form. Keep the desiccant packet intact as received in the microwell plate component package.
- According to the concept of *Universal Precautions* (29 CFR 1910.1030), all human blood and certain human body fluids must be treated as if known to be infectious for HIV, HBV and other bloodborne pathogens. No known test method can offer complete assurance that products derived from human blood will not transmit infection; thus, they should be handled as though they contain an infectious agent. Furthermore, individual patient samples being tested represent a heightened, unknown hazard. Aerosolization/inhalation, contact and mucous membrane exposure should be avoided during sample and kit handling. Consider equipment that potentially comes in contact with human source material as contaminated until appropriately decontaminated.
- Do not eat, drink or smoke when using this product.
- Wear protective gloves/protective clothing/eye protection/face protection. Take off contaminated clothing and wash before reuse.

SECTION 4: EMERGENCY FIRST AID MEASURES

Health Effects:	Symptoms of overexposure may include headache, dizziness, congestion and breathing difficulty. Skin contact may result in dermatitis and may cause allergic skin reaction upon repeated exposure. Causes severe skin burns and eye damage. Severely irritating or corrosive to eyes; greater exposures can cause eye damage, including permanent impairment of vision. Risk of serious damage to eyes. May cause ingestion corrosive effects, including burning throat, mouth and stomach. The thimerosal-containing components may be toxic to developing fetus, generally at concentrations and volumes that greatly exceed that of this kit. May cause damage to organs through prolonged or repeated exposure. May be harmful in contact with skin and if swallowed.
Eye Contact:	Flush eyes with copious water for at least 15 minutes. Ensure adequate flushing by separating the eyelids with fingers while flushing with water. OBTAIN MEDICAL ATTENTION.
Skin Contact:	Remove contaminated clothing. Flush skin with copious water and wash affected area with soap and water. If blood-to-blood contact occurs or if more severe symptoms develop, consult a physician.
Inhalation:	Remove person from exposure area to fresh air. If breathing becomes difficult, immediately call for emergency medical assistance. Treat symptomatically and supportively. Generally, this aqueous product is not a significant hazard in the kit volumes and concentrations present.
If Swallowed:	If ingested, rinse out mouth thoroughly with water, provided the person is conscious, and OBTAIN MEDICAL ATTENTION. Call a physician or the local poison control center. Treat symptomatically and supportively. If vomiting occurs, keep head lower than hips to prevent aspiration.
Notes to Physician	According to the OSHA Bloodborne Pathogens Standard (29 CFR 1910.1030), *Universal Precautions* apply. Persons handling human blood samples should be offered hepatitis B vaccination prior to working with human source material.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing Media:	Use extinguishing media appropriate for the surrounding fire.
Hazardous Combustion Products:	May release toxic oxides of carbon, nitrogen and sulfur or mercury.
Special Firefighting Procedures:	Conventional firefighting full protective equipment (with NIOSH-approved self-contained breathing apparatus) and procedures appropriate for the surrounding fire should be sufficient.

SECTION 6: ACCIDENTAL RELEASE MEASURES

- Avoid direct contact with skin, eyes, mucous membranes and clothing by wearing appropriate lab personal protective equipment (PPE) including gloves, lab coat and eye/face protection.
- In the event of a hazardous material spill, contain the spill if it is safe to do so; immediately move to a safe area, free from potential aerosols, to decontaminate and/or safely remove any contaminated clothing, as necessary. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Isolate the hazard area and ventilate if appropriate. Ensure that suitable spill cleanup materials and PPE are available and used.
- Prevent material from entering sewers, waterways or confined spaces.
- Follow established laboratory policy and/or appropriate CDC/NIH biosafety, and/or OSHA/WISHA hazardous material spill and/or NFPA/Fire Code guidelines for appropriate hazardous chemical and/or biological material spill response and cleanup. Avoid release to the environment.
- Wear appropriate PPE. Immediately, and on-site if possible:
  - Decontaminate Biohazard/Human source material spills, which should always be treated as potentially infectious, including the area, spill materials and any contaminated surfaces or equipment. Utilize an appropriate chemical decon agent/disinfectant that is effective for the known or potential pathogens relative to the samples involved (commonly a 1:10 dilution of bleach, 70-80% ethanol or isopropanol, an iodophor (such as Wescodyne Plus) or a phenolic, etc.).

- Neutralize corrosive acidic spills with the appropriate *acid neutralization / adsorbent* product.
- Absorb thimerosal-containing reagents, handle and dispose of as RCRA hazardous waste.

♦ Clean the spill area with water and wipe dry. Spills can also be absorbed with an appropriate inert material (e.g. spill pillows and absorbent pads, etc.) which is secured in an appropriate, labeled, sealed container. Material used to absorb the spill may require hazardous material waste disposal. Infectious and chemical laboratory wastes must be handled and discarded in accordance with all local, regional, national and international regulations.

♦ Refer to Sections 8 and 13 for more specifics.

SECTION 7: HANDLING AND STORAGE INFORMATION

Handling:	This test kit should be handled only by qualified personnel trained in laboratory procedures and familiar with their potential hazards. Follow proper Good Laboratory Practices and safety guidelines for handling chemical, biological and laboratory hazards. Do not smoke, eat, or drink in areas where patient samples and kit reagents are handled. Wash your hands after use. Wear appropriate personal protective equipment (PPE) including gloves, lab coat or equivalent and eye/face protection. Keep containers tightly closed; avoid splashing, spills and the generation of aerosols. Handle all human source specimens, materials, and equipment used to perform the operations as though they were capable of transmitting infectious disease, as per Standard and Universal Precautions. All personal protective equipment should be removed before leaving the work area. Refer to Section 8 for more specifics. Avoid release to the environment. Do not allow undiluted product hazardous chemical ingredient or large quantities of it to reach ground water or water course. Consult with your Environmental Health & Safety Office for assistance.
Storage:	Store according to product and label instructions (generally at 2-8°C).
Caution, consult accompanying documents. Read and follow all the precautions and warnings in the kit product instructions (. Refer to the *Instructions For Use* / *Product Package Insert* for additional product information.	
For *in vitro* diagnostic use.	

SECTION 8: EXPOSURE CONTROL / PERSONAL PROTECTION MEASURES

Control Parameters – *Component chemicals with limit values that require monitoring at the workplace*: The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

100% Sodium Azide [CAS# 26628-22-8] - OEL:			
AUSTRALIA:	CL	0.11 ppm (0.3 mg/m^3)	JUL2008
AUSTRIA:	MAK-TMW KZW	0.1 mg/m^3 0.3 mg/m^3, skin	 2007
BELGIUM:	TWA STEL	0.1 mg/m^3, 0.3 mg/m^3, skin	 MAR2002
DENMARK:	TWA	0.1 mg/m3, skin	MAY2011
EC (European Union):	TWA STEL	0.1 mg/m^3 0.3 mg/m^3, skin	 JUN2000
FINLAND:	TWA STEL	0.1 mg/m^3 0.3 mg/m^3, skin	 NOV2011
FRANCE:	VME VLE	0.1 mg/m^3 0.3 mg/m^3, Skin	 FEB2006
GERMANY:	MAK	0.2 mg/m^3, inhal	2011
HUNGARY:	TWA	0.1 mg/m^3	

100% Sodium Azide [CAS# 26628-22-8] - OEL:			
	STEL	0.3 mg/m^3	SEP2000
ICELAND:	TWA STEL	0.1 mg/m^3 0.3 mg/m^3, skin	 NOV2011
ITALY	TWA	*Valore a breve termine: C 0,29 mg/m³, C 0,11* ppm A4; sodio azide; *come azido idrazonico, vapore*	
KOREA:	CL	0.1 ppm (0.3 mg/m^3)	2006
THE NETHERLANDS:	MAC-TGG	0.1 mg/m^3, skin	2003
NEW ZEALAND:	CL	0.11 ppm (0.29 mg/m^3)	JAN2002
PERU:	TWA STEL	0.1 mg/m^3 0.29 mg/m^3	 JUL2005
SWEDEN:	TWA STEL	0.1 mg/m^3 0.3 mg/m^3, Skin	 JUN2005
SWITZERLAND:	MAK-W KZG-W	0.2 mg/m^3 0.4 mg/m^3, inhal	 JAN2011
UNITED KINGDOM:	TWA STEL	0.1 mg/m^3 0.3 mg/m^3, skin	 OCT2007
ARGENTINA, BULGARIA, COLOMBIA, JORDAN, SINGAPORE, VIETNAM		check ACGIH TLV	
UNITED STATES:	TLV-TWA-Ceiling REL-Ceiling	0.11* ppm / 0.29** mg/m³ 0.1* ppm / 0.3** mg/m³	ACGIH, 1996, 2013 NIOSH Recommended Exposure Limits *as HN_3 vapor; **as NaN_3; Skin
			[Source: RTECS September 2013 Update and Raw Material Vendor Safety Data Sheet]

Concentrated Thimerosal [CAS# 54-64-8] - OEL:			
AUSTRALIA:	TWA STEL	0.01 mg(Hg)/m^3 0.03 mg(Hg)/m^3	 JUL2008
BELGIUM:	TWA	0.1 mg(Hg)/m^3, skin	MAR2002
FRANCE:	VME	0.1 mg(Hg)/m^3, skin	FEB2006
HUNGARY:	TWA STEL	0.01 mg(Hg)/m^3 0.04 mg(Hg)/m^3, skin	 SEP2000
NORWAY:	TWA	0.05 mg(Hg)/m^3	JAN1999
THE PHILIPPINES:	TWA	0.05 mg(Hg)/m^3	JAN1993
POLAND:	MAC(TWA) MAC(STEL)	0.05 mg(Hg)/m^3 0.15 mg(Hg)/m^3	 JAN1999
RUSSIA:	TWA STEL	0.05 mg(Hg)/m^3 0.2 mg(Hg)/m^3, skin	 JUN2003
SWEDEN:	TWA	0.01 mg (Hg)/m^3, skin	JUN2005
SWITZERLAND:	MAK-W	0.01 mg/m^3, inhal, skin, sen	JAN2011
THAILAND:	STEL	0.05 mg (Hg)/m^3	JAN1993
ARGENTINA, BULGARIA, COLOMBIA, JORDAN, SINGAPORE, VIETNAM		check ACGIH TLV	
UNITED STATES:	PEL-T-TWA PEL-CEIL REL-T-TWA REL-CEIL	0.01 mg/m^3 0.1 mg/m^3 0.05 mg/m^3 0.1 mg/m^3	 OSHA 29,1910.1000 Z-1, 1989, 1994 NIOSH Recommended Exposure Limits
Remarks: Skin Contact does contribute to exposure. See Table Z-2.			
			[Source: RTECS September 2013 Update and Raw Material Vendor Safety Data Sheet]

Chemical	CAS-No.	Value	Control parameter	Update	Basis
Sulfuric acid	***7664-93-9***	TWA – TLV	0.2 mg/m^3 (thoracic fraction)	2004-01-01	USA. ACGIH Threshold Limit Values (TLV)
		TWA – PEL	1 mg/m^3 *	1993-06-30	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		REL IDLH	1 mg/m^3 15 mg/m^3	2005-149 [SEP-2007]	USA. National Institute for Occupational Safety and Health (NIOSH)
	* The value in mg/m^3 is approximate ***Remarks***: TLV CARCINOGENICITY DESIGNATION A2 – Suspected Human Carcinogen: Substance is carcinogenic in laboratory animals under conditions that are considered relevant to worker exposure. Available human studies are conflicting or insufficient to confirm an increased risk of cancer in exposed humans. Worker exposure to an A2 carcinogen should be controlled to levels as low as reasonably achievable below the TLV. The A2 Carcinogenicity Designation refers to sulfuric acid contained in **strong inorganic acid mists**.				
Hydrochloric acid	***7647-01-0***	TLV – C	2 ppm	2007-01-01	USA. ACGIH Threshold Limit Values (TLV)
		PEL – C	7 mg/m^3 * 5 ppm	2006-02-28	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		REL – C IDLH	7 mg/m^3 5 ppm 50 ppm	2005-149 [SEP-2007]	USA. National Institute for Occupational Safety and Health (NIOSH)
	* The value in mg/m^3 is approximate. Ceiling limit is to be determined from breathing-zone air samples. ***Remarks***: TLV CARCINOGENICITY DESIGNATION A4 – Not Classifiable as a Human Carcinogen: Inadequate data on which to classify the substance as a human and/or animal carcinogen.				
Hydrogen peroxide	***7722-84-1***	TWA – TLV	1 ppm	2007-01-01	USA. ACGIH Threshold Limit Values (TLV)
		TWA – PEL	1.4 mg/m^3 * 1 ppm	1997-08-04	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		REL IDLH	1.4 mg/m^3 1 ppm 75 ppm	2005-149 [SEP-2007]	USA. National Institute for Occupational Safety and Health (NIOSH)
	* The value in mg/m^3 is approximate ***Remarks***: TLV CARCINOGENICITY DESIGNATION A3 – Animal Carcinogen: Substance is carcinogenic in laboratory animals under conditions that are not considered relevant to worker exposure. Available human studies and evidence suggest that the substance is not likely to cause cancer in humans except under unusual or unlikely routes or levels of exposure. Worker exposure to an A3 carcinogen should be controlled to levels as low as reasonably achievable below the TLV.				
Dimethyl sulfoxide	***67-68-5***	TWA-WEEL	250 ppm	2014	USA: Workplace Environmental Exposure Levels
		MAK	50 ppm (160 mg/m^3)	2011	GERMANY:
Source: RTECS September 2013 Update and Raw Material Vendor Safety Data Sheet					

Additional information: The lists that were valid during the creation were used as basis.

The following personal protective equipment (PPE) is recommended to prevent blood or other potentially infectious or hazardous materials from reaching the user's work or street clothes, skin, mouth, mucous membranes, and eyes, or hazardous inhalation, under normal conditions of use and for the time during which the protective equipment is utilized:

Ventilation:	Adequate lab ventilation is required. It is recommended that users handle potentially infectious human source material/patient samples in a biological safety cabinet (BSC), expressly if aerosols might be generated.
Eye / Face Protection:	Wear ANSI approved safety glasses, goggles or face shield with safety glasses or goggles. Contact lenses should not be worn when handling lab hazards.
Protective Gloves:	Suitable gloves must be worn at all times when handling kit reagents or patient samples to provide skin protection from splash and intermittent contact. Synthetic gloves such as nitrile, neoprene and vinyl are

	recommended because they are sturdy, effective and contain no natural latex ingredients associated with latex glove allergic reactions. Disposable (single use) gloves should be changed often and never reused. Wash hands thoroughly after removing gloves. Guidelines for ***Sulfuric Acid***, less than 30%: RECOMMENDED (resistance to breakthrough longer than 8 hours): Butyl rubber, natural rubber, neoprene, polyethylene, polyvinyl chloride, Viton®, Viton®/Butyl rubber, Barrier (PE/PA/PE), Silver Shield/4H™ (polyethylene/ethylene vinyl alcohol), Trellchem® HPS, Trellchem® VPS, Tychem® SL (Saranex®), Tychem® CPF 3, Tychem® F, Tychem® BR/LV, Tychem® Responder™, Tychem® TK. RECOMMENDED (resistance to breakthrough longer than 4 hours): Nitrile rubber. NOT RECOMMENDED for use (resistance to breakthrough less than 1 hour): Polyvinyl alcohol. *Source: CHEMINFO 12-2013*
Protective Clothing:	Wear a lab coat, clinic jacket, gown, apron and/or smock. Disposable clothing is strongly recommended when handling biohazardous material. If reusable clothing is used, procedures for handling potentially infectious laundry under the OSHA Bloodborne Pathogens Standard (29 CFR 1910.1030) are required.
Respiratory Protection:	Do not breathe mist / vapors/vapours / spray.
Other:	All personal protective equipment should be removed before leaving the work area and placed in an appropriately designated area or container for storage, processing, decontamination or disposal. Protective coverings such as plastic wrap, aluminum foil or imperviously-backed absorbent pads used to cover equipment and/or surfaces must be removed and replaced if they become overtly contaminated.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Variable, generally aqueous liquids. Exceptions are the solid microtiter plate and related materials.		
Odor/odour:	No applicable information was found.	**Odor/odour threshold:**	Not Established.
pH:	Most of the liquid chemical components are between pH 5 and 9, Exceptions are the following acidic solutions: ***Substrate Buffer*** at pH ~4, ***Stopping Solution*** at pH ≤ 2, ***Chromogen*** at pH ~1.5		
Boiling point:	Undetermined.	**Melting point:**	Undetermined.
Flash point:	Not Applicable. Flammable limits: LEL/LFL is Not Applicable; UEL/UFL is Not Applicable		
Evaporation rate:	No applicable information was found.		
Fire hazard:	Although the components have not been tested for fire and explosion data, being water-based, they are not expected to be fire hazards, but some of the kit packaging materials may burn under fire conditions.		
Vapor/vapour pressure:	No applicable information was found.		
Vapor/vapour density:	No applicable information was found.		
Relative density:	Not established.		
Solubility:	The liquid chemical components are soluble in water. The acidic solutions may release heat.		
Partition coefficient (n-octanol/water):	No applicable information was found.		
Auto-igniting:	Product is not self-igniting.		
Decomposition temperature:	No applicable information was found.		
Viscosity:	No applicable information was found.		
Danger of explosion:	***Sodium azide*** may react with lead or copper plumbing to form highly explosive metal azides; buildup in metal plumbing has led to laboratory explosions, so flush with copious water when pouring dilute solutions down the drain to prevent such explosive buildup.		

No Other Standard Characteristics applicable to the identification or hazards of the product are known.

SECTION 10: STABILITY AND REACTIVITY INFORMATION

NOTE: Chemical reactions that could result in a hazardous situation (e.g. generation of flammable or toxic chemicals, fire or detonation) are listed here. Although not intended to be complete, an overview of important reactions involving common chemicals is provided to assist in the development of safe work practices.

Chemical Stability / Reactivity::	Components are stable with no known inherent significant reactivity, except the acidic solutions, which may have an exothermic reaction with certain chemicals, particularly strong bases and reducing agents.
Conditions to Avoid:	***Sodium azide*** may react with lead or copper plumbing to form highly explosive metal azides; build-up in metal plumbing has led to laboratory explosions, so flush with copious water when pouring diluted solutions down the drain to prevent such explosive build-up.
Materials to Avoid:	Do not allow the acidic ***Stop Solution*** to come in contact with strong bases or reducing agents (may lead to a violent exothermic reaction). ***Sulfuric Acid*:** Bases, Halides, Organic materials, Carbides, fulminates, Nitrates, picrates, Cyanides, Chlorates, alkali halides, Zinc salts, permanganates, e.g. potassium permanganate, Hydrogen peroxide, Azides, Perchlorates., Nitromethane, phosphorous, Reacts violently with: cyclopentadiene, cyclopentanone oxime, nitroaryl amines, hexalithium disilicide, phosphorous(III) oxide, Powdered metals
Incompatible materials:	***Sulfuric acid*** Although concentrated sulfuric acid is referred to as an oxidizing agent in some sources, it is not a very strong oxidizing agent. The 98% acid has some oxidizing ability when hot. Sulfuric acid does not polymerize and does not form peroxides. ***Sulfuric acid*** is a very reactive substance. The concentrated acid dehydrates, or sulfonates most organic compounds. Sulfuric acid reacts vigorously, violently or explosively with many organic and inorganic chemicals including water, acrylonitrile, alkali solutions, carbides, chlorates, fulminates, nitrates, perchlorates, permanganates, picrates, powdered metals, metal acetylides or carbides, epichlorohydrin, aniline, ethylenediamine, alcohols with strong hydrogen peroxide, chlorosulfonic acid, cyclopentadiene, hydrofluoric acid, nitromethane, 4-nitrotoluene, phosphorus (III) oxide, potassium, sodium, ethylene glycol, isoprene, styrene. Hazardous gases, such as hydrogen, hydrogen cyanide, hydrogen sulfide and acetylene, are evolved on contact with chemicals such as metals, cyanides, sulfides and mercaptans and carbides respectively**.**
Hazardous Decomposition Products:	May release toxic oxides of carbon, nitrogen and sulfur or mercury.
Hazardous Polymerization:	Has not been reported to occur.

SECTION 11: TOXICOLOGICAL INFORMATION -- GENERAL COMPOSITE

Refer to Sections 2 and 3 for the kit component concentrations. The composite toxicological information for this product is:

Acute Health Effects

Acute Toxicity:	Harmful in contact with skin and if swallowed. Toxic if enough is ingested; it has been evident to kill at low concentrations if enough is ingested (typically in quantities above those found in the kit).
Primary Irritant Effect:	Irritating to skin and severely irritating or corrosive to eyes, and with greater exposures can cause eye damage, including permanent impairment of vision or blindness.

Skin Corrosivity / Metal Corrosion:	Causes severe skin burns and eye damage. The ***Stopping Solution*** (R10) is Corrosive, able to cause severe burns of the mucous membranes, skin and eyes. Destructive to tissue of the skin, respiratory tract, mucous membranes, and eyes; may cause permanent injury. May cause ingestion corrosive effects, including burning throat, mouth and stomach.
Serious Eye Damage / Irritation:	Causes severe eye damage. The ***Stopping Solution*** (R10) is severely corrosive to eyes; contact can cause eye damage, including permanent impairment of vision or blindness. The ***Stopping Solution*** poses a risk of serious damage to eyes. Harmful to eyes upon contact; in case of contact with eyes, immediately rinse with copious water and seek medical attention.
STOT-Single Exposure:	No applicable information was found.
Aspiration Hazard:	No applicable information was found.
Other Acute Health Effects:	**Thimerosal** targets the Central Nervous System (CNS), lungs, gastrointestinal tract, liver, kidneys and blood (large or prolonged dosages).

Biohazard Potential

The ***Positive Control*** (C1) was heat-treated to inactivate the HIV. The human sera in the components of this product were tested and found non-reactive for HBsAg and antibodies to HCV (the ***Negative Control*** Component C0 is also negative for antibodies to HIV-1 and HIV-2). No known test method can offer complete assurance that HIV, hepatitis B or C virus or other infectious agents are absent. Moreover, patient blood samples tested with this kit represent an unknown, heightened hazard. Employ *Standard* and *Universal Precautions*; handle these reagents, all human blood and specimens as if capable of transmitting infectious disease, in a Biosafety Level 2 laboratory, applying the guidelines from the current CDC/NIH *Biosafety in Microbiological and Biomedical Laboratories,* the WHO *Laboratory Biosafety Manual* or equivalent. Persons handling blood samples should have the option of receiving hepatitis B vaccination.

Chronic Toxicity

Respiratory or Skin Sensitization:	***Thimerosal*** (organ-mercury compound) is a significant sensitizer; prolonged or repeated exposure may cause allergic reaction in certain sensitive individuals. There are ample cases of sensitization resulting from exposure to dilute Thimerosal solutions.
Carcinogenicity:	**Component R1** contains < 0.1% ***Cobalt (II) chloride*** (CAS# 7646-79-9, IARC Group 2B and EU Category 2 carcinogen) and ***silica quartz*** (CAS# 14808-60-7, ACGIH class A2 and IARC Group 1 carcinogen). Keep the desiccant packet intact as received in the component package. **Component R10** contains ***Sulfuric Acid*****,** CAS# 7664-93-9: .IARC Group 1, The agent is Carcinogenic to Humans, NTP listed as Known to be a Human Carcinogen and ACGIH-TLV Group A2, Suspected Human Carcinogen *Note: The IARC Group and ACGIH A2 1classifications refers specifically to sulfuric acid contained in strong inorganic acid mists are and does not apply to sulfuric acid or sulfuric acid solutions.*
Germ Cell Mutagenicity:	Data is not available
Reproductive hazard:	***Thimerosal*** (merthiolate sodium), an organo-mercury biocidal preservative mercury compound, is a known reproductive toxin, listed by the State of California to cause developmental toxicity.
STOT-Repeated Exposure:	No applicable information was found.

Additional Toxicological Information: Mercury compounds, such as ***Thimerosal*** (merthiolate sodium), an organo-mercury biocidal preservative, are considered reproductive toxicants and environmental pollutants by many government agencies at certain concentrations/quantities. Danger of cumulative effects; avoid release to the environment. To the best of our knowledge the chemical, physical and toxicological properties have NOT been thoroughly investigated for some of the component chemicals and/or mixtures.

SECTION 12: ECOLOGICAL INFORMATION

This product was not tested. The following assessment is based on information for the ingredients.	
Ecotoxicity:	**100% *Sodium Azide* [CAS# 26628-22-8] ***: Fish LC_{50} - Lepomis macrochirus - 0.68 mg/l - 96 h Daphnia EC_{50} - Daphnia pulex (Water flea) - 4.2 mg/l - 48 h **Concentrated *Sulfuric acid* [CAS# 7664-93-9] ***: Fish LC_{50} - Gambusia affinis (Mosquito fish) – 42 mg/l - 96 h **Concentrated *Thimerosal* [CAS# 54-64-8] *:*** Fish LC_{50} - Oncorhynchus mykiss (rainbow trout) – 21.2 mg/l - 48 h **Concentrated *Citric acid*** [CAS#: 77-92-9]*: Toxicity to fish mortality LC_{50} - Leuciscus idus melanotus - 440 mg/l - 48 h Method: OECD Test Guideline 203 Toxicity to daphnia and other aquatic invertebrates: static test - Daphnia magna (Water flea) - 1,535 mg/l - 24 h **Concentrated *Hydrochloric acid* [CAS# 7647-01-0] ***: Fish LC_{50} - Bluegill/Sunfish – 3.6 mg/l - 48 h ** Source: Raw Material Vendor Safety Data Sheets, RTECS and/or CCOHS Cheminfo*
Persistence and degradability:	No information found.
Bioaccumulation potential:	Mercury and its compounds are expected to significantly bioaccumulate.
Mobility in soil:	No information found.
PBT and vPvB assessment:	No information found.
Other adverse effects:	The ecological information for the dilute organo-mercury preservative, **Thimerosal** has not been thoroughly investigated however, United States regulation considers mercury hazardous to the environment to 0.2 ppm mercury (0.01% thimerosal contains ~50 ppm mercury, which makes up ~50% of the molecule); at or above this level, any waste must be handled as dangerous waste. The acidic corrosive Components **R8 (pH 4), R9 (pH 1.5)** and **R10 (pH ≤2)** are hazardous for drinking water and toxic to aquatic organisms by pH modification if not neutralized. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal of hazardous and/or laboratory wastes, product or packaging must be conducted in accordance with all applicable local, regional national and international regulations. This section specifies the general and United States RCRA requirements. Processing, use or contamination of the kit components may change waste management requirements and options. Contact your Environmental Health & Safety Office for your specific disposal procedures.

Recommended Product Disposal:

- All **human source** and other potentially infectious material must be appropriately decontaminated or disposed of as infectious material; check your applicable ordinances accordingly.
  - Waste containing **Thimerosal**, an organo-mercury compound, is a regulated hazardous waste if the final concentration is ≥ 0.2 mg/L (0.2 ppm). The component in this kit that contains 0.1% thimerosal equates to 0.05 % = 500 mg/L (500 ppm) Mercury w/v. The components in this kit that contain 0.01% thimerosal (R3, R4, C0 and C1) equates to 0.005 % = 50 mg/L (50 ppm) Mercury w/v.
    If the Thimerosal-containing waste has a final concentration that is ≥ 0.2 mg/L (0.2 ppm Mercury, it requires disposal as a toxic environmental pollutant material in a RCRA approved waste facility (or equivalent); the US RCRA Waste disposal Code for this waste is D009; check your applicable ordinances accordingly.

- Note that the **Negative (C0)** and **Positive (C1) Controls** must be decontaminated prior to thimerosal-containing hazardous waste disposal.
- **Acidic Stopping Solution** (sulfuric acid, pH ≤ 2), Chromogen (pH ~1.5), and Substrate Buffer (pH ~4.0) wastes should be neutralized to pH 6-8 for safe sewer disposal; check your local and regional ordinances accordingly. In addition, if the final pH measures ≤ 2, it requires disposal as a corrosive material in a RCRA approved waste facility (or equivalent); the US RCRA Waste disposal Code for this waste, if not neutralized, is D002, check your applicable ordinances accordingly.
- **Sodium azide** may react with lead or copper plumbing to form highly explosive metal azides; build-up in metal plumbing has led to laboratory explosions, so flush with copious water when pouring dilute solutions down the drain to prevent such explosive build-up; check your applicable ordinances accordingly.

Do not allow undiluted product or large quantities of it to reach ground water or water course.

Recommended Unclean Packaging Disposal: Dispose of in accordance with all applicable local, regional, national and international regulations.

SECTION 14: TRANSPORT INFORMATION

Shipping of product, packaging and waste must be conducted in accordance with all applicable local, regional, national and international regulations. Processing, use or contamination of the kit components may change shipping requirements and options. Contact your Environmental Health & Safety Office for your specific shipping procedures.

Recommended Unused Product Multi-Modal Transportation: According to US DOT, IATA and UN "Model Regulations", the ***STOPPING SOLUTION*** in the kit must be transported as follows:

Acidic Component ***Stopping Solution*** in this product contains **1 N Sulfuric acid** (< 5% H_2SO_4). Thus any unneutralized discarded product component or waste generated from its use resulting in a corrosive liquid (pH ≤ 2 or a pH ≥ 12.5 per Method 9040 (USEPA Publication SW-846) or which corrodes Steel (NACE Standard TM-01-69)) must be transported as follows:

Proper Shipping Name and Description: **Sulphuric acid [with not more than 51% acid]**
Hazard Class or Division: **8**
UN ID Number: **UN 2796**
Packing group **II**

The **EIA Chromogen (11X)** solution in this product has been evaluated with the CORROSITEX® test method to determine its corrosive potential and any packing group classification. The results of this testing classified this STOP solution as non-corrosive for shipping purposes.

Recommended Used Product Hazardous Waste Disposal Transportation: Air and land transportation information for discarded kit components and waste from this product when used as intended is:

Acidic *Chromogen* is at pH ~1.5 and 1N sulfuric acid ***Stopping Solution*** is at pH ≤ 2, thus any un-neutralized discarded kit component or waste generated from their use resulting in a corrosive liquid (pH ≤ 2 or an pH ≥ 12.5 per Method 9040 (USEPA Publication SW-846) or Corrodes Steel (NACE Standard TM-01-69)) must be transported as follows:

Proper Shipping Name and Description: **Waste Corrosive Liquid n.o.s.**
Hazard Class or Division: **8**
UN ID Number: **UN 1760**
Packing group **III**

Component R5 in this kit contains approximately 0.05 % = 500 mg/L (500 ppm) Mercury (w/v) from the 0.1% **Thimerosal** preservative. Components R3, R4, C0 and C1 in this kit contains approximately 0.005 % = 50 mg/L = 50 ppm Mercury (w/v) from the 0.01% **Thimerosal** preservative. Therefore, any discarded kit component or waste generated from its use, resulting in a final concentration that is greater than or equal to 0.2 mg/L (0.2 ppm) must be transported as follows:

Proper Shipping name: **Environmentally Hazardous substance, liquid n.o.s.** (Thimerosal containing wastewater)
Hazard Class or Division: **9**
UN ID Number: **UN 3082**
Packing group: **III**

SECTION 15: REGULATORY INFORMATION

Composite HMIS Rating: Health: 2 Flammability: 0 Reactivity: 1

Carcinogenicity Categories:

Component **R1** contains ***< 0.1% Cobalt (II) chloride*** (CAS# 7646-79-9, IARC Group 2B and EU Category 2 carcinogen) and ***silica quartz*** (CAS# 14808-60-7, in dust form is an ACGIH class A2 and IARC Group 1 carcinogen) in a pelletized desiccant sealed packet. Keep the desiccant packet intact as received in the component package.

Component R**10** contains ***1N Sulfuric Acid*****,** CAS# 7664-93-9: IARC Group 1 The agent is Carcinogenic to Humans, NTP listed as Known to be a Human Carcinogen and ACGIH-TLV Group A2 Suspected Human Carcinogen. *Note: The IARC Group and ACGIH A2 1classifications refers specifically to sulfuric acid contained in strong inorganic acid mists are and does not apply to sulfuric acid or sulfuric acid solutions.*

National Regulations – Other Domestic / Foreign Laws:

Hazard communication compliance – This SDS contains the required information for preparation in accordance with the following GHS-based global regulations:

1. **United States** – Occupational Safety Health Administration *Hazard Communication Standard* **29 CFR 1910.1200 (US HCS)**
2. **Taiwan** – Regulation **Lao-An-3-Tzu-No. 0960145703** / Published National Standard **CNS 15030**
3. **People's Republic of China** – National Standard **GB/T 17519-2013, GB 30000-2013**
4. **New Zealand** – *Hazardous Substances and New Organisms* Act 1996 (**HSNO**), *Hazardous Substances (Classification)* Regulations 2001 and *Thresholds and Classifications* January 2012 (as published in 2008)
   ***Composite HSNO Hazard Class*:** Subclass 6.5 Category B (contact sensitizers)
   Subclass 6.9 Category B (harmful to human target organs or systems)
   Subclass 8.2 Category B (skin corrosive, GHS 1B)
   Subclass 8.3 Category A (eye corrosive)
5. **Mexico** – **Standard NMX-R-019-SCFI-2011**
6. **Korea** – ***Public Notice 2013-37*** *Standard for Classification and Labeling of Chemical Substances and Material Safety Data Sheets*
7. **Japan** – Industrial Safety and Health Law (ISHL) National Standard **JIS Z7252, JIS Z7253**
8. **European Community** (EC) – applicable ***CLP*** related regulations **(2010/453/EC, 2008/1272/EC, 2006/1907/EC** etc.)
9. **Canada** – Standard *Workplace Hazardous Materials Information System* (WHMIS-GHS) **Canadian Standard** for the hazard classification criteria for this product.
   ***Composite WHMIS Hazards*:** Skin Corrosion/ Irritation
   Serious Eye Damage/ Eye Irritation
   Skin Sensitization
   Specific Target Organ Toxicity - Repeated Exposure
   Health Hazard Not Otherwise Classified
10. **Brazil** – Regulation **NRB 14725**
11. **Australia** – Code of Practice *Preparation of Safety Data Sheets for Hazardous Chemicals* under Section 274 of the **Work Health and Safety** (WHS) Act.
12. Analogous GHS-based global regulations

Inventory status

Country(s) or region Inventory name	In Compliance (yes/no)*
Australia Australian Inventory of Chemical Substances (AICS)	Yes
Canada Domestic Substances List (DSL)	Yes
Canada Non-Domestic Substances List (NDSL)	Yes
China Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe European Inventory of Existing Commercial Chemical Substances (EINECS) or Europe European List of Notified Chemical Substances (ELINCS)	Yes
Japan Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea Existing Chemicals List (ECL)	Yes
New Zealand New Zealand Inventory	Yes
Philippines Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan inventory (CSNN):	Yes
United States & Puerto Rico Toxic Substances Control Act (TSCA) Inventory	Yes

* A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

Regulation (EC) No. 1907/2006 (REACH):

Chemicals included in the Candidate List of Substances of Very High Concern (SVHC): None

REACH No.: A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

*European Directive RoHS (*2002/95/EC*), the Restriction of Hazardous Substances:* This product contains an organomercury preservative that exceeds 100 ppm mercury as regulated under the EU Restriction of Hazardous Substances Directive 2002/95/EC. However the product is not an electrical or electronic device as defined in the RoHS directive scope. Still, it should not be distributed to areas where mercury content of 50 ppm to 500 ppm is banned. Refer to section 13 for the exact mercury content in the various kit components.

United States SARA:

SARA 302 (extremely hazardous substance) components: The following components are subject to reporting levels established by SARA Title III, Section 302: ***Sulfuric Acid***, CAS# 7664-93-9; Revision Date: 2007-07-01
Hydrogen peroxide**,** CAS# 7722-84-1; Revision Date: 1993-04-24
Sodium Azide, CAS# 26628-22-8; Revision Date: 2007-07-01

SARA 313 components: The following components are subject to reporting levels established by SARA Title III, Section 313: ***Sulfuric Acid***, CAS# 7664-93-9; Revision Date: 2007-07-01

California Proposition 65 (California Safe Drinking Water and Toxic Enforcement Act of 1986): WARNING: This Product Contains a Chemical(s) Known to the State of California to Cause Reproductive Toxicity.

Chemicals known to cause reproductive Toxicity: ***Thimerosal*** (Merthiolate Sodium), CAS# 54-64-8; classified under the generic class of Mercury compounds. (Listed July 1, 1990)

SECTION 16: OTHER INFORMATION

Hazard statement abbreviation(s):

Acute Tox. – skn.	Acute toxicity – skin contact (dermal)
Acute Tox. – oral.	Acute toxicity – ingested (swallowed)
Acute Tox. – inhl.	Acute toxicity – inhaled
Skin Sens.	Skin sensitizer
Skin Corr.	Skin corrosion
Skin Irrit.	Skin irritation
Eye Damage.	Serious eye damage
Eye Irrit.	Eye irritation)
Rep. Tox.	Reproductive Toxicant
STOT SE	Specific target organ toxicity - single exposure
Aquatic Acute	Acute aquatic toxicity
Aquatic Chronic	Chronic aquatic toxicity
Met. Corr.	Corrosive to Metals
Fla. Liq.	Flammable liquid
Cat.	Category

H227	Combustible liquid.
H290	May be corrosive to metals.
H300 + H310	Fatal if swallowed or in contact with skin
H313	May be harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H316	Causes mild skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H320	Causes eye irritation.
H330	Fatal if inhaled.
H335	May cause respiratory irritation.
H361	Suspected if damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

P202	Do not handle until all safety precautions have been read and understood.

P210	Keep away from heat.
P234	Keep only in original container.
P260	Do not breathe mist / vapors/vapours / spray.
P261	Avoid breathing mist / vapors/vapours / spray.
P264	Wash hands thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P284	Wear respiratory protection.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician
P301 + P330 + P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P302 + P350	IF ON SKIN: Gently wash with plenty of soap and water.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P303 + P361 + P353	IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P310	Immediately call a POISON CENTER or doctor/ physician
P333 + P313	If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P363	Wash contaminated clothing before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
P390	Absorb spillage to prevent material damage.
P391	Collect spillage.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P406	Store in corrosive resistant stainless steel container with a resistant inner liner.
P501	Dispose of contents/container to in accordance with local/regional/national/international regulation.
P501	This material and its container must be disposed of as hazardous waste.
Caution	Contains human source material and inactivated pathogen. Handle as if capable of transmitting potentially infectious agents (*Standard* and *Universal Precautions*).

This test kit should be handled only by qualified personnel trained in laboratory procedures and familiar with their potential hazards. Specific warnings are given in the instructions for use. The absence of a specific warning should not be interpreted as an indication of safety.

For *in vitro* diagnostic use.

Chemical safety assessment: Mixtures covered in this SDS were classified using the US HCS, EC CLP and/or UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS) Fourth edition unless otherwise specified.

Sources of key data used to compile the Safety Data Sheet:

Raw Material Vendor Safety Data Sheets
United Nations (UN) Globally Harmonized System (GHS)
United States OSHA Hazard Communication Standard (HCS) 1910.1200
Canadian Workplace Hazardous Materials Information System (WHMIS)
Mexican Standard NMX-R-019-SCFI-2011
European Community (EC) Regulations 2008/1272/EC, 2010/453/EC, 2006/1907/EC
Australian Code of Practice on Preparation of Safety Data Sheets for Hazardous Chemicals (Section 274 of the *Work Health and Safety Act*)
Australian Code of Practice – Preparation of Safety Data Sheets for Hazardous Chemicals (Section 274 of the *Work Health and Safety Act*)
New Zealand – Hazardous Substances and New Organisms Act 1996 (HSNO)
The *People's Republic of China* National Standard GB/T 17519-2013, GB 30000-2013 [regulatory translation if available and summaries]
Taiwan Regulation Lao-An-3-Tzu-No. 0960145703 / Published National Standard CNS 15030 [regulatory translation if available / summaries]
Korean Public Notice 2008-26 [regulatory translation if available and summaries]
Japanese Industrial Standard JIS Z7252, JIS Z7253 [regulatory translation if available and summaries]
Registry of Toxic Effects of Chemical Substances (RTECS)
Canadian Centre for Occupational Health and Safety (CCOHS) *CHEMINFO databases, etc.*
International Agency for Research on Cancer (IARC)
American Conference of Governmental Industrial Hygienists (ACGIH)
Occupational Safety and Health Administration, U.S. Department of Labor (OSHA)
National Toxicity Program (NTP)
National Institute for Occupational Safety and Health (NIOSH)
World Health Organization. *Laboratory Biosafety Manual*
CDC/NIH *Biosafety in Microbiological and Biomedical Laboratories*
Australian Inventory of Chemical Substances listing
California Proposition 65

Key / legend to abbreviations and acronyms used in the safety data sheet:

ACGIH – American Conference of Governmental Industrial Hygienists
ACIS – Australian Inventory of Chemical Substances
ANSI – American National Standards Institute
CAS – Chemical Abstracts Service
CCOHS – Canadian Centre for Occupational Health and Safety
CDC – Centers for Disease Control, USA
CNS – Central Nervous System
DGSMA – Dangerous Goods Safety Management Act
DOT – Department of Transportation
EC_{50} – half maximal effective concentration
EC CLP – European Commission regulation for the Classification, Labeling and Packaging of chemical substances and mixtures
EU – European Union
GHS – Globally Harmonized System
HCS – Hazard Communication Standard, USA
HNOC – Hazard Not Otherwise Classified
HSNO – Hazardous Substances and New Organisms Act 1996 (New Zealand)
IARC – International Agency for Research on Cancer
IATA – International Air Transport Association
ICAO - International Civil Aviation Organization
IDLH – Immediately Dangerous to Life or Health
IMDG – International Maritime Dangerous Goods
IPCS – International Programme on Chemical Safety
ISHA – Industrial Safety and Health Act
LC_{50} – median lethal concentration, 50%
LD_{50} – median lethal dose, 50%
NIOSH – National Institute for Occupational Safety and Health
NTP – National Toxicity Program
OEL – Occupational Exposure Limit
PEL – Permissible Exposure Limit
ppm – parts per million
RTECS – Registry of Toxic Effects of Chemical Substances
SDS – Safety Data Sheet
STOT – Specific Target Organ Toxicity
TCCA – Toxic Chemical Control Act
STEL – Short Term Exposure Limit
TLV/TWA – Threshold Limit Value / Time-Weighted Average
UN – United Nations
US EPA – United States Environmental Protection Agency
US HCS – Hazard Communication Standard, USA
US OSHA – Occupational Safety and Health Administration, U.S. Department of Labor
WHMIS –Workplace Hazardous Materials Information System, Canada
WHO – World Health Organization (United Nations)

Additional information: The lists that were valid during the creation were used as basis.

This Revision: Updated, reformatted and added new GHS information.

Bio-Rad Laboratories:

Department issuing SDS: Environmental Health and Safety.

Contact for general SDS information: Seattle Operations, Environmental Health & Safety, 6565 185th Ave. NE, Redmond, WA 98052, USA, Phone: 425-881-8300 (8 am to 5 pm PT), ro-sds@bio-rad.com

Customer support contact: Clinical Diagnostics Group, 4000 Alfred Nobel Drive, Hercules, CA 94547, USA Phone: 1-800-224-6723, www.bio-rad.com/diagnostics

Contact 24/7/365: 1-800-424-9300