



Safety Data Sheet - Cover Page

The products listed below meet the criteria for classification as hazardous in accordance with The Globally Harmonized System of Classification and Labelling of Chemicals (GHS). Please refer to the indicated Safety Data Sheet (SDS) for information concerning hazards and appropriate protective measures. SDS for products not classified as hazardous are available on request. Visit www.cellsignal.com for additional technical information and support.

| Kit No. | Product name |
|----------------|---|
| 76853 | SimpleDIP Methylated DNA IP (MeDIP) Kit |

| Kit Component No. | Product name |
|--------------------------|--------------------------|
| 7009 | ChIP Elution Buffer (2X) |
| 7013 | RNAse A |
| 10012 | Proteinase K |
| 10007 | DNA Binding Buffer |



Cell Signaling

TECHNOLOGY®

SAFETY DATA SHEET (SDS): According to the OSHA Hazard Communication Standard 29 CFR 1910.1200

Issuing Date: 2014-07-31

Revision Date: 2014-07-31

Version: 1

SECTION 1. Identification

Product identifier

Product No. 7009
Product name ChIP Elution Buffer (2X)

Recommended use of the chemical and restrictions on use

Identified uses This product is intended for research purposes only.
Uses advised against This product is not intended for use in diagnostic procedures or therapeutics.
This product is not intended for use in humans or animals.

Manufacturer, importer, supplier

Manufacturer address Cell Signaling Technology, Inc.
3 Trask Lane
Danvers, MA 01923
United States
TEL: +1 978 867 2300
FAX: +1 978 867 2400

Website www.cellsignal.com
Email address support@cellsignal.com
Company phone number 978-867-2300
Emergency telephone number In case of emergency call CHEMTREC 1-800-424-9300

SECTION 2. Hazard(s) identification

Classification

This substance/mixture is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|--|-------------|
| Serious eye damage/eye irritation | Category 2A |
|--|-------------|

GHS Label elements, including precautionary statements



Signal Word
Warning

Hazard statement(s)
Causes serious eye irritation

Precautionary Statement(s)

Wash face, hands and any exposed skin thoroughly after handling
 Wear protective gloves/protective clothing/eye protection/face protection
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 If eye irritation persists: Get medical advice/attention

Supplementary Hazard Information

Hazards not otherwise classified (HNOC) None

SECTION 3. Composition/information on ingredients

Chemical nature Aqueous buffer solution

| Chemical Name | CAS No. | Weight % |
|-------------------------|----------|----------|
| trometamol | 77-86-1 | 0.5-1.5 |
| sodium dodecyl sulphate | 151-21-3 | 1-5 |

SECTION 4. First-aid measures

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact Wash skin with soap and water.

Inhalation Move to fresh air.

Ingestion If swallowed, do not induce vomiting - seek medical advice.

Most important symptoms and effects, both acute and delayed

Liquid, aerosols and vapors of this product are irritating and can cause pain, tearing, reddening and swelling accompanied by a stinging sensation and/or a feeling like that of fine dust in the eyes.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Advice for emergency responders

General advice For further assistance, contact your local Poison Control Center.

Protection of First-aiders Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

SECTION 5. Fire-fighting measures

Extinguishing media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical

No information available.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

| | |
|------------------------------------|------------------------------|
| For non-emergency personnel | Ensure adequate ventilation. |
| Other information | No information available. |

Environmental precautions

See Section 12 for additional information.

Methods and material for containment and cleaning up

| | |
|--------------------------------|---|
| Methods for containment | Prevent further leakage or spillage if safe to do so. |
| Methods for cleaning up | Pick up and transfer to properly labeled containers. |

SECTION 7. Handling and storage

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

| | |
|--|--|
| Technical measures/Storage conditions | Keep containers tightly closed in a dry, cool and well-ventilated place. |
| Packaging material | No information available. |
| Incompatible products | None known based on information supplied. |

SECTION 8. Exposure controls/personal protection

Control parameters

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Showers, eyewash stations, and ventilation systems.

Individual protection measures, such as personal protective equipment

Personal protective equipment (PPE) needs to be selected depending on the implemented engineering controls, frequency/duration of work activities and the concentrations of the hazardous substance.

| | |
|---------------------------------|---|
| Eye/face protection | Safety glasses with side-shields. |
| Skin and body protection | Wear protective gloves/clothing. |
| Respiratory protection | If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations. |
| Hygiene measures | Handle in accordance with good industrial hygiene and safety practice. |

SECTION 9. Physical and chemical properties

Information on basic physical and chemical properties

| | |
|--|---------------------------|
| Physical state | Liquid |
| Appearance | Translucent |
| Odor | No information available |
| Color | Clear |
| Odor Threshold | No information available |
| pH | 7.5 @ 20 °C |
| Melting point/freezing point | No information available |
| Initial boiling point and boiling range | No information available |
| Flash point | No information available. |
| Evaporation rate | No information available |
| Flammability (solid, gas) | No information available |
| Upper flammability limit | No information available. |
| Lower flammability limit | No information available. |
| Vapor pressure | No information available |
| Vapor density | No information available |
| Relative density | No information available |
| Solubility | No information available. |
| Solubility in other solvents | No information available |
| Partition coefficient: n-octanol/water | No information available |
| Autoignition temperature | No information available |
| Decomposition temperature | No information available. |
| Explosive properties | No information available |
| Oxidizing properties | No information available |
| VOC content | No information available |
| Viscosity | No information available. |
| Density | No information available. |

SECTION 10. Stability and reactivity

Reactivity

No information available.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

| | |
|---------------------------------|-------------------------------|
| Hazardous reactions | None under normal processing. |
| Hazardous polymerization | None under normal processing. |

Conditions to Avoid

No information available.

Incompatible Materials

None known based on information supplied.

Hazardous Decomposition Products

None known based on information supplied.

SECTION 11. Toxicological information

Information on likely routes of exposure

| | |
|--------------------|---|
| Inhalation | Vapours may irritate throat and respiratory system. |
| Eye contact | Contact with eyes may cause irritation. |

| | |
|---------------------|---|
| Skin contact | Prolonged contact may cause redness and irritation. |
| Ingestion | Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. |

Information on toxicological effects

This material should only be handled by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals. It should be borne in mind that the toxicological and physiological properties of this compound is not well defined.

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|-------------------------|----------------------|------------------------|--------------------------------------|
| trometamol | = 5900 mg/kg (Rat) | - | - |
| sodium dodecyl sulphate | = 977 mg/kg (Rat) | = 580 mg/kg (Rabbit) | > 3900 mg/m ³ (Rat) 1 h |

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|--|---|
| Symptoms | Liquid, aerosols and vapors of this product are irritating and can cause pain, tearing, reddening and swelling accompanied by a stinging sensation and/or a feeling like that of fine dust in the eyes. |
| Serious eye damage/eye irritation | Causes serious eye irritation. |
| Sensitization | No information available. |
| Mutagenic effects | No information available. |
| Carcinogenicity | No component of this product present at levels greater than or equal to 0.1% is identifiable as probable, possible or confirmed carcinogen by IARC, ACGIH, NTP, or OSHA. |
| Reproductive toxicity | No information available. |
| STOT - single exposure | No information available. |
| STOT - repeated exposure | No information available. |
| Neurological effects | No information available. |
| Aspiration Hazard | No information available. |

SECTION 12. Ecological information**Ecotoxicity**

Product does not present an aquatic toxicity hazard based on known or supplied information.

2.24% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

| Chemical Name | Toxicity to algae | Toxicity to fish | Toxicity to daphnia and other aquatic invertebrates |
|-------------------------|--|--|---|
| sodium dodecyl sulphate | EC50 3.59 - 15.6 mg/L (Pseudokirchneriella subcapitata) 96 h | LC50 1.31 mg/L (Cyprinus carpio) 96 h | EC50 1.8 mg/L (Daphnia magna) 48 h |

| | |
|--------------------------------------|---------------------------|
| Persistence and degradability | No information available. |
| Bioaccumulation | No information available. |
| Mobility | No information available. |

| Chemical Name | Octanol-Water Partition Coefficient |
|-------------------------|-------------------------------------|
| sodium dodecyl sulphate | 1.6 |

Other adverse effects

No information available.

SECTION 13. Disposal considerations**Waste Disposal Methods**

Dispose of in accordance with all applicable national environmental laws and regulations.

Disposal considerations

Do not empty into drains; dispose of this material and its container in a safe way.

SECTION 14. Transport information


This material is not subject to regulation as a hazardous material for shipping.

SECTION 15. Regulatory information

North American Inventory Listing

| Chemical Name | TSCA 8(b) | TSCA 12(b) | DSL | NDSL |
|-------------------------|-----------|------------|--------|------------|
| trometamol | Listed | Not Listed | Listed | Not Listed |
| sodium dodecyl sulphate | Listed | Not Listed | Listed | Not Listed |

Canadian Workplace Hazardous Materials Information System (WHMIS) Classification

| | |
|---|-------------------------------------|
|  | Class D2B - Toxic Material at >= 1% |
|---|-------------------------------------|

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

| | |
|-----------------------------------|-----|
| Acute Health Hazard | Yes |
| Chronic Health Hazard | No |
| Fire Hazard | No |
| Sudden Release of Pressure Hazard | No |
| Reactive Hazard | No |

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product contains the following U.S. State Right to Know chemicals:

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|----------------------|-------------------|----------------------|---------------------|
| hydrochloric acid | Listed | Listed | Listed |

U.S. FIFRA Label Information

This product does not contain any substances regulated as pesticides.

US Commerce Department - Export Administration Regulations Information

This product does not contain any substances regulated under the Chemical Weapons Convention (CWC).

U.S. Drug Enforcement Administration Information

This product does not contain any substances regulated under the DEA.

SECTION 16. Other information

Issuing Date: 2014-07-31

Revision Date: 2014-07-31

Disclaimer

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

End of Safety Data Sheet



SAFETY DATA SHEET (SDS): According to the OSHA Hazard Communication Standard 29 CFR 1910.1200
Issuing Date: 2014-12-16 **Revision Date:** 2014-12-18

Version: 1

SECTION 1. Identification

Product identifier

Product number 10007
Product name DNA Binding Buffer
UN number UN1219

Recommended use of the chemical and restrictions on use

Identified uses This product is intended for research purposes only.
Uses advised against This product is not intended for use in diagnostic procedures or therapeutics.
 This product is not intended for use in humans or animals.

Manufacturer, importer, supplier

Manufacturer address Cell Signaling Technology, Inc.
 3 Trask Lane
 Danvers, MA 01923
 United States
 TEL: +1 978 867 2300
 FAX: +1 978 867 2400
Website www.cellsignal.com
Email address support@cellsignal.com
Company phone number 978-867-2300
Emergency telephone number In case of emergency call CHEMTREC 1-800-424-9300

SECTION 2. Hazard(s) identification

Classification

This substance/mixture is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|---|------------|
| Acute oral toxicity | Category 4 |
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 2 |
| Specific target organ toxicity - single exposure (STOT SE) | Category 3 |
| Flammable liquids | Category 2 |

GHS Label elements, including precautionary statements



Signal Word
 Danger

Hazard statement(s)

Highly flammable liquid and vapor
 Harmful if swallowed
 Causes skin irritation
 Causes serious eye irritation
 May cause drowsiness or dizziness

Precautionary Statement(s)

Wash face, hands and any exposed skin thoroughly after handling
 Wear protective gloves/protective clothing/eye protection/face protection
 Use only outdoors or in a well-ventilated area
 Keep away from heat/sparks/open flames/hot surfaces. — No smoking
 Take precautionary measures against static discharge
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
 Rinse mouth
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 Wash contaminated clothing before reuse
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 If eye irritation persists: Get medical advice/attention
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Call a POISON CENTER or doctor/physician if you feel unwell
 Store in a well-ventilated place. Keep container tightly closed
 Store locked up
 Dispose of contents/container to an approved waste disposal plant

Supplementary Hazard Information

Hazards not otherwise classified (HNOC) None

SECTION 3. Composition/information on ingredients

| Chemical Name | CAS No | Weight % |
|----------------------|---------|----------|
| propan-2-ol | 67-63-0 | 30-60 |
| guanidinium chloride | 50-01-1 | 30-60 |

SECTION 4. First-aid measures

| | |
|---------------------|--|
| Eye contact | Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing. |
| Skin contact | Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Remove and wash contaminated clothing before re-use. Wash off immediately with plenty of water. If symptoms persist, call a physician. Immediate medical attention is not required. |
| Inhalation | Move to fresh air. Consult a physician. If not breathing, give artificial respiration. Move to fresh air in case of accidental inhalation of vapors. Immediate medical attention is not required. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician. |
| Ingestion | Rinse mouth. Drink plenty of water. If symptoms persist, call a physician. Do NOT induce vomiting. Clean mouth with water. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician. If swallowed, do not induce vomiting - seek medical advice. |

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Advice for emergency responders

General advice If symptoms persist, call a physician. Show this safety data sheet to the doctor in attendance. Do not breathe dust/fume/gas/mist/vapors/spray.

Protection of first-aiders Use personal protective equipment.

SECTION 5. Fire-fighting measures**Extinguishing media**

Suitable Extinguishing Media Cool containers / tanks with water spray.

Unsuitable Extinguishing Media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical

No information available.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6. Accidental release measures**Personal precautions, protective equipment and emergency procedures**

For non-emergency personnel Remove all sources of ignition. Use personal protective equipment. Take precautionary measures against static discharges. Heat, flames and sparks. Ensure adequate ventilation.

Other information No information available.

Environmental precautions

Do not flush into surface water or sanitary sewer system. Prevention of fire and explosion. A vapor suppressing foam may be used to reduce vapors. Try to prevent the material from entering drains or water courses. Do not allow material to contaminate ground water system. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Cover liquid spill with sand, earth or other noncombustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Pick up and transfer to properly labeled containers. Soak up with inert absorbent material. Dam up.

SECTION 7. Handling and storage**Precautions for safe handling**

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Use only in an area containing flame proof equipment. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Use only in area provided with appropriate exhaust ventilation. Wear personal protective equipment. Prevent the formation of vapors, mists and aerosols. There is a hazard associated with rags, paper or any other material used to remove spills which become soaked with product. Avoid accumulation of these: they are to be disposed off safely after use. Avoid static electricity build up with connection to earth.

Conditions for safe storage, including any incompatibilities

| | |
|--|--|
| Technical measures/Storage conditions | Keep containers tightly closed in a dry, cool and well-ventilated place. |
| Packaging material | No information available. |
| Incompatible products | Acids, Strong oxidizing agents. |

SECTION 8. Exposure controls/personal protection**Control parameters**

| Occupational exposure limit values | | | |
|------------------------------------|---------------------------------|--|--|
| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH REL |
| propan-2-ol | STEL : 400 ppm TWA : 200 ppm | TWA : 400 ppm TWA : 980 mg/m ³ | IDLH : 2000 ppm TWA : 400 ppm TWA : 980 mg/m ³ STEL: 500 ppm STEL: 1225 mg/m ³ |

Appropriate engineering controls

Showers, eyewash stations, and ventilation systems.

Individual protection measures, such as personal protective equipment

Personal protective equipment (PPE) needs to be selected depending on the implemented engineering controls, frequency/duration of work activities and the concentrations of the hazardous substance.

| | |
|---------------------------------|---|
| Eye/face protection | Tightly fitting safety goggles. Face-shield. |
| Skin and body protection | Wear protective gloves/clothing. |
| Respiratory protection | If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations. |
| Hygiene measures | When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing. |

SECTION 9. Physical and chemical properties**Information on basic physical and chemical properties**

| | |
|--|-------------------------------|
| Physical state | Liquid |
| Appearance | Colorless |
| Odor | Characteristic |
| Color | Clear |
| Odor Threshold | No information available |
| pH | 7.0 @ 20 °C |
| Melting point/freezing point | No information available |
| Initial boiling point and boiling range | No information available |
| Flash point | >= 21 °C |
| Evaporation rate | No information available |
| Flammability (solid, gas) | No information available |
| Upper flammability limit | 12% No information available. |
| Lower flammability limit | 2% No information available. |
| Vapor pressure | No information available |
| Vapor density | No information available |
| Relative density | No information available |

| | |
|---|---------------------------|
| Solubility | No information available. |
| Solubility in other solvents | No information available |
| Partition coefficient: n-octanol/water | No information available |
| Autoignition temperature | 425 °C |
| Decomposition temperature | No information available. |
| Explosive properties | No information available |
| Oxidizing properties | No information available |
| VOC content | No information available |
| Viscosity | No information available. |
| Density | No information available. |

SECTION 10. Stability and reactivity

Reactivity

Reacts with incompatible materials causing a fire and explosion hazard. May form an explosive atmosphere in high concentrations.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

| | |
|---------------------------------|---|
| Hazardous reactions | Exothermic reaction possible with strong oxidizers. |
| Hazardous polymerization | None under normal processing. |

Conditions to Avoid

Heat, flames and sparks.

Incompatible Materials

Acids, Strong oxidizing agents.

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 11. Toxicological information

Information on likely routes of exposure

| | |
|---------------------|---|
| Inhalation | May cause drowsiness and dizziness based on components. |
| Eye contact | Contact with eyes may cause irritation. |
| Skin contact | Contact with skin may cause irritation. |
| Ingestion | May be harmful if swallowed. |

Information on toxicological effects

This material should only be handled by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals. It should be borne in mind that the toxicological and physiological properties of this compound is not well defined.

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|----------------------|--------------------|------------------------|----------------------|
| guanidinium chloride | 475 mg/kg (Rat) | - | - |
| propan-2-ol | 5000 mg/kg (Rat) | 12800 mg/kg (Rabbit) | 16000 ppm (Rat) 8h |

| | |
|--------------------------------|-------------|
| ATEmix (oral) | 867 mg/kg |
| ATEmix (dermal) | 25600 mg/kg |
| ATEmix (inhalation-gas) | 32000 ppm |

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|--------------------------|--|
| Symptoms | No information available. |
| Sensitization | No information available. |
| Mutagenic effects | No information available. |
| Carcinogenicity | No component of this product present at levels greater than or equal to 0.1% is identifiable as probable, possible or confirmed carcinogen by IARC, ACGIH, NTP, or OSHA. |

| Chemical Name | IARC | NTP | OSHA |
|------------------------|------|-----|------|
| propan-2-ol 67-63-0 | 3 | - | - |

| | |
|---------------------------------|---------------------------------|
| Reproductive toxicity | No information available. |
| STOT - single exposure | No information available. |
| STOT - repeated exposure | No information available. |
| Chronic Toxicity | Avoid repeated exposure. |
| Target Organ Effects | Eyes, Respiratory system, Skin. |
| Neurological effects | No information available. |
| Aspiration Hazard | No information available. |

SECTION 12. Ecological information**Ecotoxicity**

Product does not present an aquatic toxicity hazard based on known or supplied information.

| Chemical Name | Toxicity to algae | Toxicity to fish | Toxicity to daphnia and other aquatic invertebrates |
|----------------------|---|---|---|
| propan-2-ol | EC50 1000 mg/L (Desmodesmus subspicatus) 96 h EC50 1000 mg/L (Desmodesmus subspicatus) 72 h | LC50 9640 mg/L (Pimephales promelas) 96 h LC50 1400000 µg/L (Lepomis macrochirus) 96 h LC50 11130 mg/L (Pimephales promelas) 96 h | EC50 13299 mg/L (Daphnia magna) 48 h |
| guanidinium chloride | - | LC50 1758 mg/L (Leuciscus idus) 48 h | - |

| | |
|--------------------------------------|------------------------------|
| Persistence and degradability | Readily biodegradable. |
| Bioaccumulation | Not likely to bioaccumulate. |
| Mobility | No information available |

| Chemical Name | Octanol-Water Partition Coefficient |
|----------------------|-------------------------------------|
| propan-2-ol | 0.05 |
| guanidinium chloride | -1.7 |

Other adverse effects

No information available.

SECTION 13. Disposal considerations**Waste Disposal Methods**

Dispose of in accordance with all applicable national environmental laws and regulations.

Disposal considerations

Do not empty into drains; dispose of this material and its container in a safe way.

SECTION 14. Transport information**DOT**

| | |
|--|---------------------|
| UN number | UN1219 |
| UN proper shipping name | Isopropanol mixture |
| Transport hazard class(es) | 3 |
| Packing group | II |
| Special provisions | IB2, T4, TP1 |
| Emergency response guide number | 129 |

IATA

| | |
|-----------------------------------|---------------------|
| UN number | UN1219 |
| UN proper shipping name | Isopropanol mixture |
| Transport hazard class(es) | 3 |
| Packing group | II |
| ERG code | 3L |

SECTION 15. Regulatory information**North American Inventory Listing**

| Chemical Name | TSCA 8(b) | TSCA 12(b) | DSL | NDSL |
|----------------------|-----------|------------|--------|------------|
| propan-2-ol | Listed | Not Listed | Listed | Not Listed |
| guanidinium chloride | Listed | Not Listed | Listed | Not Listed |

Canadian Workplace Hazardous Materials Information System (WHMIS) Classification

| | |
|--|---|
|  | Class B2 - Flammable Liquids Class D2B - Toxic Material at >= 1% |
|--|---|

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

| Chemical Name | CAS No | SARA 313 - Threshold Values % |
|---------------|---------|-------------------------------|
| propan-2-ol | 67-63-0 | 1.0 |

SARA 311/312 Hazard Categories

| | |
|--|-----|
| Acute Health Hazard | Yes |
| Chronic Health Hazard | No |
| Fire Hazard | Yes |
| Sudden Release of Pressure Hazard | No |
| Reactive Hazard | No |

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product contains the following U.S. State Right to Know chemicals:

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|---------------|------------|---------------|--------------|
| propan-2-ol | Listed | Listed | Listed |

U.S. FIFRA Label Information

This product does not contain any substances regulated as pesticides.

US Commerce Department - Export Administration Regulations Information

This product does not contain any substances regulated under the Chemical Weapons Convention (CWC).

U.S. Drug Enforcement Administration Information

This product does not contain any substances regulated under the DEA.

SECTION 16. Other information

Issuing Date: 2014-12-16

Revision Date: 2014-12-18

Disclaimer

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

End of Safety Data Sheet



Safety Data Sheet (SDS) According to the OSHA Hazard Communication Standard 29 CFR 1910.1200
Issuing Date: 2015-03-04 **Revision Date:** 2015-03-23

Version: 1

SECTION 1. Identification

Product identifier

Product number 7013
Product name RNase A (10 mg/ml)
Other means of identification 7013S

Recommended use of the chemical and restrictions on use

Identified uses This product is intended for research purposes only.
Uses advised against This product is not intended for use in diagnostic procedures or therapeutics.
This product is not intended for use in humans or animals.

Manufacturer, importer, supplier

Manufacturer address Cell Signaling Technology, Inc.
3 Trask Lane
Danvers, MA 01923
United States
TEL: +1 978 867 2300
FAX: +1 978 867 2400

Website www.cellsignal.com
Email address support@cellsignal.com
Emergency telephone number In case of emergency call CHEMTREC 1-800-424-9300

SECTION 2. Hazard(s) identification

Classification

This substance/mixture is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|--|------------|
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 2 |

GHS Label elements, including precautionary statements



Signal Word
Warning

Hazard statement(s)
Causes skin irritation. Causes serious eye irritation.

Precautionary Statement(s)

Wash face, hands and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Supplementary Hazard Information

No information available.

SECTION 3. Composition/information on ingredients

| Chemical Name | CAS No | Weight % | Classification (1272/2008) |
|---------------|---------|----------|---|
| trometamol | 77-86-1 | 7-13 | Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335) |
| glycerol | 56-81-5 | 30-60 | |

SECTION 4. First-aid measures

| | |
|---------------------|---|
| Eye contact | Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing. |
| Skin contact | Consult a physician if necessary. Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. |
| Inhalation | Move to fresh air. Consult a physician. If not breathing, give artificial respiration. |
| Ingestion | Rinse mouth. Drink plenty of water. If symptoms persist, call a physician. Do NOT induce vomiting. If swallowed, do not induce vomiting - seek medical advice. Never give anything by mouth to an unconscious person. |

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Advice for emergency responders

| | |
|-----------------------------------|---|
| General advice | If symptoms persist, call a physician. Show this safety data sheet to the doctor in attendance. Do not breathe dust/fume/gas/mist/vapors/spray. |
| Protection of first-aiders | Use personal protective equipment. |

SECTION 5. Fire-fighting measures

Extinguishing media

| | |
|---------------------------------------|---|
| Suitable Extinguishing Media | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Unsuitable Extinguishing Media | CAUTION: Use of water spray when fighting fire may be inefficient. |

Specific hazards arising from the chemical

No information available.

Explosion Data

| | |
|---|-------|
| Sensitivity to Mechanical Impact | None. |
| Sensitivity to Static Discharge | None. |

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Ensure adequate ventilation.
Other information No information available.

Environmental precautions

Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.
Methods for cleaning up Cover liquid spill with sand, earth or other noncombustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Pick up and transfer to properly labeled containers.

SECTION 7. Handling and storage

Precautions for safe handling

Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Prevent the formation of vapors, mists and aerosols. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.
Packaging material No information available.
Incompatible products None known based on information supplied.

SECTION 8. Exposure controls/personal protection

Control parameters

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH REL |
|---------------|-----------|---|-----------|
| glycerol | - | TWA mist, total particulate: 15 mg/m ³ TWA mist, respirable fraction: 5 mg/m ³ | - |

Appropriate engineering controls

Showers, eyewash stations, and ventilation systems.

Individual protection measures, such as personal protective equipment

Personal protective equipment (PPE) needs to be selected depending on the implemented engineering controls, frequency/duration of work activities and the concentrations of the hazardous substance.

Eye/face protection Tightly fitting safety goggles.
Skin and body protection Wear protective gloves/clothing.

| | |
|-------------------------------|---|
| Respiratory protection | If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations. |
| Hygiene measures | Handle in accordance with good industrial hygiene and safety practice. |

SECTION 9. Physical and chemical properties

Information on basic physical and chemical properties

| | |
|--|---------------------------|
| Physical state | Liquid |
| Appearance | Transparent |
| Color | Clear, Colorless |
| Odor | No information available |
| Odor Threshold | No information available |
| pH | 7.6 @ 20 °C |
| Melting point/freezing point | No information available |
| Initial boiling point and boiling range | No information available |
| Flash point | No information available. |
| Evaporation rate | No information available |
| Flammability (solid, gas) | No information available |
| Upper flammability limit | No information available. |
| Lower flammability limit | No information available. |
| Vapor pressure | No information available |
| Vapor density | No information available |
| Relative density | No information available |
| Solubility | No information available. |
| Solubility in other solvents | No information available |
| Partition coefficient: n-octanol/water | No information available |
| Autoignition temperature | No information available |
| Decomposition temperature | No information available. |
| Explosive properties | No information available |
| Oxidizing properties | No information available |
| VOC content | No information available |
| Viscosity | No information available. |
| Density | No information available. |
| Solubility in other solvents | No information available |

SECTION 10. Stability and reactivity

Reactivity

No information available.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

| | |
|---------------------------------|-------------------------------|
| Hazardous reactions | None under normal processing. |
| Hazardous polymerization | None under normal processing. |

Conditions to Avoid

No information available.

Incompatible Materials

None known based on information supplied.

Hazardous Decomposition Products

None known based on information supplied.

SECTION 11. Toxicological information**Information on likely routes of exposure**

| | |
|---------------------|---|
| Inhalation | Inhalation of vapors in high concentration may cause irritation of respiratory system. Mist may be injurious to the kidneys at very high exposure levels. |
| Eye contact | Contact with eyes may cause irritation. |
| Skin contact | Contact with skin may cause irritation. |
| Ingestion | Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. |

Information on toxicological effects

This material should only be handled by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals. It should be borne in mind that the toxicological and physiological properties of this compound is not well defined.

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---------------|---------------------|--------------------------|-----------------|
| trometamol | 5900 mg/kg (Rat) | - | - |
| glycerol | 12600 mg/kg (Rat) | > 10000 mg/kg (Rabbit) | - |

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|---------------------------------|--|
| Symptoms | No information available. |
| Sensitization | No information available. |
| Mutagenic effects | No information available. |
| Carcinogenicity | No component of this product present at levels greater than or equal to 0.1% is identifiable as probable, possible or confirmed carcinogen by IARC, ACGIH, NTP, or OSHA. |
| Reproductive toxicity | No information available. |
| STOT - single exposure | No information available. |
| STOT - repeated exposure | No information available. |
| Target Organ Effects | Eyes, Respiratory system, Kidney, Skin. |
| Neurological effects | No information available. |
| Aspiration Hazard | No information available. |

SECTION 12. Ecological information**Ecotoxicity**

| Chemical Name | Toxicity to algae | Toxicity to fish | Toxicity to daphnia and other aquatic invertebrates |
|---------------|-------------------|--|---|
| trometamol | - | - | NOEC >100 mg/L (Selenastrum capricornutum) 96 h |
| glycerol | - | LC50 51 - 57 mL/L (Oncorhynchus mykiss) 96 h | EC50 500 mg/L (Daphnia magna) 24 h |

| | |
|--------------------------------------|---------------------------|
| Persistence and degradability | No information available. |
| Bioaccumulation | No information available. |
| Mobility | No information available. |

| Chemical Name | Octanol-Water Partition Coefficient |
|---------------|-------------------------------------|
| glycerol | -1.76 |

Other adverse effects

No information available.

SECTION 13. Disposal considerations

Waste Disposal Methods

Dispose of in accordance with all applicable national environmental laws and regulations.

Disposal considerations

Do not empty into drains; dispose of this material and its container in a safe way.

SECTION 14. Transport information


This material is not subject to regulation as a hazardous material for shipping.

SECTION 15. Regulatory information

North American Inventory Listing

| Chemical Name | TSCA 8(b) | TSCA 12(b) | DSL | NDSL |
|---------------|-----------|------------|--------|------------|
| trometamol | Listed | Not Listed | Listed | Not Listed |
| glycerol | Listed | Not Listed | Listed | Not Listed |

Canadian Workplace Hazardous Materials Information System (WHMIS) Classification

| | |
|--|-------------------------------------|
|  | Class D2B - Toxic Material at >= 1% |
|--|-------------------------------------|

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

| | |
|-----------------------------------|-----|
| Acute Health Hazard | Yes |
| Chronic Health Hazard | No |
| Fire Hazard | No |
| Sudden Release of Pressure Hazard | No |
| Reactive Hazard | No |

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product contains the following U.S. State Right to Know chemicals:

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|----------------------|-------------------|----------------------|---------------------|
| glycerol | Listed | Listed | Listed |

U.S. FIFRA Label Information

This product does not contain any substances regulated as pesticides.

US Commerce Department - Export Administration Regulations Information

This product does not contain any substances regulated under the Chemical Weapons Convention (CWC).

U.S. Drug Enforcement Administration Information

This product does not contain any substances regulated under the DEA.

SECTION 16. Other information

Issuing Date: 2015-03-04

Revision Date: 2015-03-23

Disclaimer

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

End of Safety Data Sheet



Cell Signaling

TECHNOLOGY®

SAFETY DATA SHEET (SDS): According to the OSHA Hazard Communication Standard 29 CFR 1910.1200

Issuing Date: 2014-10-28

Revision Date: 2014-10-30

Version: 1

SECTION 1. Identification

Product identifier

Product number 10012
Product name Proteinase K

Recommended use of the chemical and restrictions on use

Identified uses This product is intended for research purposes only.
Uses advised against This product is not intended for use in diagnostic procedures or therapeutics.
This product is not intended for use in humans or animals.

Manufacturer, importer, supplier

Manufacturer address Cell Signaling Technology, Inc.
3 Trask Lane
Danvers, MA 01923
United States
TEL: +1 978 867 2300
FAX: +1 978 867 2400
Website www.cellsignal.com
Email address support@cellsignal.com
Company phone number 978-867-2300
Emergency telephone number In case of emergency call CHEMTREC 1-800-424-9300

SECTION 2. Hazard(s) identification

Classification

| | |
|----------------------------------|------------|
| Respiratory sensitization | Category 1 |
|----------------------------------|------------|

GHS Label elements, including precautionary statements



Signal Word
Danger

Hazard statement(s)
May cause allergy or asthma symptoms or breathing difficulties if inhaled

Precautionary Statement(s)
Avoid breathing dust/fume/gas/mist/vapors/spray
In case of inadequate ventilation wear respiratory protection

IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
 Dispose of contents/container to an approved waste disposal plant

Supplementary Hazard Information

Hazards not otherwise classified (HNOC) None

SECTION 3. Composition/information on ingredients

| Chemical Name | CAS No | Weight % |
|---------------------------------------|------------|----------|
| Proteinase, Tritirachium album serine | 39450-01-6 | 1-5 |
| glycerol | 56-81-5 | 30-60 |

SECTION 4. First-aid measures

| | |
|---------------------|---|
| Eye contact | Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing. |
| Skin contact | Consult a physician if necessary. Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Wash off immediately with soap and plenty of water. |
| Inhalation | Move to fresh air. If not breathing, give artificial respiration. Consult a physician. Oxygen or artificial respiration if needed. |
| Ingestion | Do NOT induce vomiting. Drink plenty of water. If symptoms persist, call a physician. Rinse mouth. If swallowed, do not induce vomiting - seek medical advice. Never give anything by mouth to an unconscious person. |

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

May cause sensitization of susceptible persons.

Advice for emergency responders

| | |
|-----------------------------------|---|
| General advice | Show this safety data sheet to the doctor in attendance. If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray. |
| Protection of first-aiders | Use personal protective equipment. |

SECTION 5. Fire-fighting measures

Extinguishing media

| | |
|---------------------------------------|---|
| Suitable Extinguishing Media | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Unsuitable Extinguishing Media | CAUTION: Use of water spray when fighting fire may be inefficient. |

Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes. May cause sensitization by inhalation and skin contact.

Explosion Data

| | |
|---|-------|
| Sensitivity to Mechanical Impact | None. |
| Sensitivity to Static Discharge | None. |

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6. Accidental release measures**Personal precautions, protective equipment and emergency procedures**

For non-emergency personnel Avoid contact with skin, eyes and clothing. Use personal protective equipment.
Other information No information available.

Environmental precautions

Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.
Methods for cleaning up Cover liquid spill with sand, earth or other noncombustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Pick up and transfer to properly labeled containers. Soak up with inert absorbent material.

SECTION 7. Handling and storage**Precautions for safe handling**

Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wear personal protective equipment. Prevent the formation of vapors, mists and aerosols.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions Keep away from direct sunlight.
Packaging material No information available.
Incompatible products None known based on information supplied.

SECTION 8. Exposure controls/personal protection**Control parameters**

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH REL |
|---------------|-----------|---|-----------|
| glycerol | - | TWA mist, total particulate: 15 mg/m ³ TWA mist, respirable fraction: 5 mg/m ³ | - |

Appropriate engineering controls

Showers, eyewash stations, and ventilation systems.

Individual protection measures, such as personal protective equipment

Personal protective equipment (PPE) needs to be selected depending on the implemented engineering controls, frequency/duration of work activities and the concentrations of the hazardous substance.

Eye/face protection Tightly fitting safety goggles.
Skin and body protection Wear protective gloves/clothing.

| | |
|-------------------------------|---|
| Respiratory protection | If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations. |
| Hygiene measures | Handle in accordance with good industrial hygiene and safety practice. |

SECTION 9. Physical and chemical properties

Information on basic physical and chemical properties

| | |
|--|---------------------------|
| Physical state | Liquid |
| Appearance | Clear |
| Odor | No information available |
| Color | Colorless |
| Odor Threshold | No information available |
| pH | No information available |
| Melting point/freezing point | No information available |
| Initial boiling point and boiling range | No information available |
| Flash point | No information available. |
| Evaporation rate | No information available |
| Flammability (solid, gas) | No information available |
| Upper flammability limit | No information available. |
| Lower flammability limit | No information available. |
| Vapor pressure | No information available |
| Vapor density | No information available |
| Relative density | No information available |
| Solubility | No information available. |
| Solubility in other solvents | No information available |
| Partition coefficient: n-octanol/water | No information available |
| Autoignition temperature | No information available |
| Decomposition temperature | No information available. |
| Explosive properties | No information available |
| Oxidizing properties | No information available |
| VOC content | No information available |
| Viscosity | No information available. |
| Density | No information available. |

SECTION 10. Stability and reactivity

Reactivity

No information available.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

| | |
|---------------------------------|-------------------------------|
| Hazardous reactions | None under normal processing. |
| Hazardous polymerization | None under normal processing. |

Conditions to Avoid

No information available.

Incompatible Materials

None known based on information supplied.

Hazardous Decomposition Products

None known based on information supplied.

SECTION 11. Toxicological information

Information on likely routes of exposure

| | |
|---------------------|---|
| Inhalation | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| Eye contact | Contact with eyes may cause mild irritation. |
| Skin contact | Contact with skin may cause mild irritation. |
| Ingestion | Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. |

Information on toxicological effects

This material should only be handled by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals. It should be borne in mind that the toxicological and physiological properties of this compound is not well defined.

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---------------|---------------------|--------------------------|-----------------|
| glycerol | 12600 mg/kg (Rat) | > 10000 mg/kg (Rabbit) | - |

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|---------------------------------|--|
| Symptoms | No information available. |
| Sensitization | No information available. |
| Mutagenic effects | No information available. |
| Carcinogenicity | No component of this product present at levels greater than or equal to 0.1% is identifiable as probable, possible or confirmed carcinogen by IARC, ACGIH, NTP, or OSHA. |
| Reproductive toxicity | No information available. |
| STOT - single exposure | No information available. |
| STOT - repeated exposure | No information available. |
| Chronic Toxicity | Repeated contact may cause allergic reactions in very susceptible persons. Avoid repeated exposure. |
| Target Organ Effects | Respiratory system. |
| Neurological effects | No information available. |
| Aspiration Hazard | No information available. |

SECTION 12. Ecological information

Ecotoxicity

| Chemical Name | Toxicity to algae | Toxicity to fish | Toxicity to daphnia and other aquatic invertebrates |
|---------------|-------------------|--|---|
| glycerol | - | LC50 51 - 57 mL/L (Oncorhynchus mykiss) 96 h | EC50 500 mg/L (Daphnia magna) 24 h |

| | |
|--------------------------------------|---------------------------|
| Persistence and degradability | No information available. |
| Bioaccumulation | No information available. |
| Mobility | No information available. |

| Chemical Name | Octanol-Water Partition Coefficient |
|---------------|-------------------------------------|
| glycerol | -1.76 |

Other adverse effects

No information available.

SECTION 13. Disposal considerations

Waste Disposal Methods

Dispose of in accordance with all applicable national environmental laws and regulations.

Disposal considerations

Do not empty into drains; dispose of this material and its container in a safe way.

SECTION 14. Transport information


This material is not subject to regulation as a hazardous material for shipping.

SECTION 15. Regulatory information

North American Inventory Listing

| Chemical Name | TSCA 8(b) | TSCA 12(b) | DSL | NDSL |
|---------------|-----------|------------|--------|------------|
| glycerol | Listed | Not Listed | Listed | Not Listed |

Canadian Workplace Hazardous Materials Information System (WHMIS) Classification

| | |
|--|--|
|  | Class D2A - Very Toxic Material at >= 0.1% |
|--|--|

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

| | |
|-----------------------------------|-----|
| Acute Health Hazard | Yes |
| Chronic Health Hazard | Yes |
| Fire Hazard | No |
| Sudden Release of Pressure Hazard | No |
| Reactive Hazard | No |

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product contains the following U.S. State Right to Know chemicals:

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|---------------|------------|---------------|--------------|
| glycerol | Listed | Listed | Listed |

U.S. FIFRA Label Information

This product does not contain any substances regulated as pesticides.

US Commerce Department - Export Administration Regulations Information

This product does not contain any substances regulated under the Chemical Weapons Convention (CWC).

U.S. Drug Enforcement Administration Information

This product does not contain any substances regulated under the DEA.

| |
|--------------------------------------|
| SECTION 16. Other information |
|--------------------------------------|

Issuing Date: 2014-10-28

Revision Date: 2014-10-30

Disclaimer

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

End of Safety Data Sheet