Cell Signaling TECHNOLOGY®

Safety Data Sheet (SDS) According to the OSHA Hazard Communication Standard 29 CFR 1910.1200

Issuing Date: 2017-01-13 **Revision Date:** 2017-01-13 **Version:** 1

SECTION 1. Identification

Product identifier

Product number 56383
Product name SimpleChIP® Plus Sonication Chromatin IP Kit
Kit Component
Glycine Solution (10X)
ChIP Sonication Nuclear Lysis Buffer
ChIP Sonication Cell Lysis Buffer (2X)
ChIP Buffer (10X)
ChIP Elution Buffer (2X)
ChIP-Grade Protein G Magnetic Beads
DNA Binding Buffer
Protease Inhibitor Cocktail (200X)
RNAse A (10 mg/ml)
Proteinase K (20 mg/ml)
Histone H3 (D2B12) XP® Rabbit mAb (ChIP Formulated)
Normal Rabbit IgG
5 M NaCl
DNA Wash Buffer
DNA Elution Buffer
SimpleChIP® Human RPL30 Exon 3 Primers
SimpleChIP® Mouse RPL30 Intron 2 Primers
DNA Purification Columns and Collection Tubes
UN number UN3316

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.
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SECTION 2. Hazard(s) identification

Classification

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

Classification and label elements described below are inclusive of all hazards of the combined kit. The most severe classifications are listed for each endpoint. Refer to individual kit component SDS for classification and label elements for each component present in the kit.

Acute oral toxicity	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Respiratory sensitization	Category 1
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 damage. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause drowsiness or dizziness. May cause respiratory irritation.

Precautionary Statement(s)
Wash face, hands and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. In case of inadequate ventilation wear respiratory protection. Use only outdoors or in a well-ventilated area. Do not eat, drink or smoke when using this product. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Keep container tightly closed. Ground/Bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/ .? /equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep cool.
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 skin irritation occurs: Get medical advice/attention.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
IF INHALED: 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.
In case of fire: Use CO2, dry chemical, or foam for extinction.
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

No information available.
Hazards not otherwise classified (HNOC)
Not applicable.

Unknown Acute Toxicity 15.269% of the mixture consists of ingredient(s) of unknown acute toxicity

SECTION 3. Composition/information on ingredients

Kit Component Name Glycine Solution (10X)

Chemical Name	CAS No	Weight %	Hazardous

glycine	56-40-6	5-10	Yes

Kit Component Name ChIP Sonication Nuclear Lysis Buffer

Chemical Name	CAS No	Weight %	Hazardous
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylether	9002-93-1	1-<3	Yes

Kit Component Name ChIP Sonication Cell Lysis Buffer (2X)

Chemical Name	CAS No	Weight %	Hazardous
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylether	9002-93-1	1-<3	Yes

Kit Component Name ChIP Buffer (10X)

Chemical Name	CAS No	Weight %	Hazardous
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylether	9002-93-1	5-10	Yes
trometamol	77-86-1	3-7	Yes
glycine, N,N'-1,2-ethanediylbis[N-(carboxymethyl)-, sodium salt, hydrate (1:2:2)	6381-92-6	1-5	Yes
sodium 3-alpha,12-alphadihydroxy-5beta-cholan-24-oate	302-95-4	0.1-1	Yes
sodium dodecyl sulphate	151-21-3	0.1-1	Yes
hydrochloric acid	7647-01-0	0.1-1	Yes

Kit Component Name ChIP Elution Buffer (2X)

Chemical Name	CAS No	Weight %	Hazardous
sodium dodecyl sulphate	151-21-3	1-5	Yes
trometamol	77-86-1	1-5	Yes
hydrochloric acid	7647-01-0	0.1-1	Yes

Kit Component Name ChIP - Grade Protein G Magnetic Beads

Chemical Name	CAS No	Weight %	Hazardous
sodium azide	26628-22-8	<=0.1	Yes

Kit Component Name DNA Binding Buffer

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

Kit Component Name Protease Inhibitor Cocktail (200X)

Chemical Name	CAS No	Weight %	Hazardous
dimethyl sulfoxide	67-68-5	60-100	Yes
benzenesulfonyl fluoride, 4-(2-aminoethyl)-, hydrochloride (1:1)	30827-99-7	1-5	Yes

Kit Component Name RNAse A (10 mg/ml)

Chemical Name	CAS No	Weight %	Hazardous
glycerol	56-81-5	30-60	Yes
trometamol	77-86-1	10-15	Yes

Kit Component Name Proteinase K (20 mg/ml)

Chemical Name	CAS No	Weight %	Hazardous
glycerol	56-81-5	30-60	Yes

Proteinase, Tritirachium album serine	39450-01-6	1-5	Yes

Kit Component Name Histone H3 (D2B12) XP® Rabbit mAb (ChIP Formulated)
Normal Rabbit IgG

Chemical Name	CAS No	Weight %	Hazardous
glycerol	56-81-5	30-60	Yes
sodium 4-(2-hydroxyethyl)piperazin-1-yl ethanesulphonate	75277-39-3	0.1-1	Yes

Kit Component Name
5M NaCl
DNA Wash Buffer
DNA Elution Buffer
SimpleChIP® Human RPL30 Exon 3 Primers
SimpleChIP® Mouse RPL30 Intron 2 Primers
DNA Purification Columns and Collection Tubes

This product does not contain substances at concentrations requiring disclosure under 29 CFR 1910.1200 (OSHA Hazard Communication Standard).

SECTION 4. First-aid measures

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention immediately if symptoms occur.
Skin contact Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur. If skin irritation or rash occurs: Get medical advice/attention.
Inhalation IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention immediately if symptoms occur. Administer oxygen if breathing is difficult and you are trained. If breathing has stopped, contact emergency medical services immediately.
Ingestion Do NOT induce vomiting. Clean mouth with water and afterwards drink plenty of water. Get medical attention immediately if symptoms occur.

Most important symptoms and effects, both acute and delayed

Contains kit components which may cause the following effects, refer to individual component SDSs for full information on symptoms:

Corrosive to the eyes and may cause irreversible eye damage. 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. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Advice for emergency responders

General advice Use first aid treatment according to the nature of the injury. When symptoms persist or in all cases of doubt seek medical advice. Show this safety data sheet to the doctor in attendance.
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. Do not use a solid water stream as it may scatter and spread fire.

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.

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 ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Avoid contact with skin, eyes and clothing. Evacuate personnel to safe areas. Use personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
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 Cover liquid spill with sand, earth or other noncombustible absorbent material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly. Prevent product from entering drains.

SECTION 7. Handling and storage

Precautions for safe handling

Use according to package label instructions. Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Wear personal protective equipment. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges.

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 Strong acids. Strong bases. Oxidizing agents.

SECTION 8. Exposure controls/personal protection

Control parameters

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH REL
glycerol	-	TWA mist, total particulate: 15 mg/m³ TWA mist, respirable fraction: 5 mg/m³	-
propan-2-ol	STEL 400 ppm TWA : 200 ppm	TWA : 400 ppm TWA : 980 mg/m³	IDLH : 2000 ppm TWA : 400 ppm TWA : 980 mg/m³ STEL: 500 ppm STEL: 1225 mg/m³
hydrochloric acid	Ceiling: 2 ppm	Ceiling: 5 ppm Ceiling: 7 mg/m³	IDLH : 50 ppm Ceiling: 5 ppm Ceiling: 7 mg/m³
sodium azide	Ceiling: 0.29 mg/m³ Ceiling: 0.11 ppm	-	Ceiling: 0.1 ppm Ceiling: 0.3 mg/m³

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. If splashes are likely to occur, wear:. 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 Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. Physical and chemical properties

Information on the known physical chemical properties of each component within Kit are given below. If not included, information is either not available or not applicable. Refer to individual kit component SDS for further information.

Information on basic physical and chemical properties

Kit Component	Glycine Solution (10X)
Physical state	Liquid
Appearance	Transparent
Color	Clear Colorless
pH VALUE	6.58
Remarks	@ 20 °C
Kit Component	ChIP Sonication Nuclear Lysis Buffer
Physical state	Liquid
Appearance	Transparent
Color	Colorless
pH VALUE	8.0
Kit Component	ChIP Sonication Cell Lysis Buffer (2X)
Physical state	Liquid
Color	Colorless
pH VALUE	8.5
Kit Component	ChIP Buffer (10X)
Physical state	Liquid
Appearance	Translucent
Color	Clear

pH VALUE	8.1
Remarks	@ 20 °C
Kit Component	ChIP Elution Buffer (2X)
Physical state	Liquid
Appearance	Translucent
Color	Clear
pH VALUE	7.5
Remarks	@ 20 °C
Kit Component	ChIP-Grade Protein G Magnetic Beads
Physical state	Liquid
Appearance	Suspension
Color	Clear White to off-white with white suspended solids
Kit Component	DNA Binding Buffer
Physical state	Liquid
Appearance	Colorless
Color	Clear
Odor	Characteristic
pH VALUE	7.0
Remarks	@ 20 °C
Flash point (°C) VALUE	>=21
Autoignition temp (°C) VALUE	425
Upper flammability limit	12%
Lower flammability limit	2%
Kit Component	Protease Inhibitor Cocktail (200X)
Physical state	Liquid
Appearance	Translucent
Color	Clear Colorless
Odor	Sulphurous
pH VALUE	7.0
Remarks	@ 20 °C
Flash point (°C) VALUE	87
Method	Closed cup (based on components)
Upper flammability limit	42%
Lower flammability limit	3.5%
Kit Component	RNAse A (10 mg/ml)
Physical state	Liquid
Appearance	Transparent
Color	Clear Colorless
pH VALUE	7.6
Remarks	@ 20 °C
Kit Component	Proteinase K (20 mg/ml)
Physical state	Liquid
Appearance	Clear
Color	Colorless
Kit Component	Histone H3 (D2B12) XP® Rabbit mAb (ChIP Formulated) Normal Rabbit IgG
Physical state	Liquid
Appearance	Clear
Color	Colorless
pH VALUE	7.4
Remarks	@ 20 °C
Kit Component	5 M NaCl
Physical state	Liquid
Appearance	Translucent
Color	Clear Colorless

pH VALUE	5.35
Remarks	@ 20 °C
Kit Component	DNA Wash Buffer
Physical state	Liquid
pH VALUE	7.7
Kit Component	DNA Elution Buffer
Physical state	Liquid
pH VALUE	8.5
Density	1 g/cm3
Kit Component	SimpleChIP® Human RPL30 Exon 3 Primers
Physical state	Liquid
Appearance	Clear
Color	Colorless
Kit Component	SimpleChIP® Mouse RPL30 Intron 2 Primers
Physical state	Liquid
Appearance	Clear
Color	Colorless

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

Extremes of temperature and direct sunlight. Heat, flames and sparks. Over a period of time, sodium azide may react with copper, lead, brass, or solder in plumbing systems to form an accumulation of the HIGHLY EXPLOSIVE compounds of lead azide & copper azide.
Incompatible Materials

Strong acids. Strong bases. Oxidizing agents.
Hazardous Decomposition Products

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

SECTION 11. Toxicological information

Information on likely routes of exposure

Product Information
Refer to kit component SDS for full toxicological information. 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 toxocological and physiological properties of this compound is not well defined.

Inhalation .

Kit Component	DNA Binding Buffer
Inhalation	May cause drownsiness and dizziness based on components
Kit Component	Proteinase K (20 mg/ml)
Inhalation	May cause allergy or asthma symptoms or breathing difficulties if inhaled

Eye contact .

Kit Component	ChIP Sonication Nuclear Lysis Buffer
Eye contact	May cause irreversible damage to eyes Expected to be an irritant based on components
Kit Component	ChIP Sonication Cell Lysis Buffer (2X)
Eye contact	Expected to be an irritant based on components
Kit Component	ChIP Elution Buffer (2X)
Eye contact	Expected to be an irritant based on components
Kit Component	DNA Binding Buffer
Eye contact	Expected to be an irritant based on components
Kit Component	Protease Inhibitor Cocktail (200X)
Eye contact	Expected to be an irritant based on components
Kit Component	RNAse A (10 mg/ml)
Eye contact	Expected to be an irritant based on components
Kit Component	ChIP Buffer (10X)
Eye contact	May cause irreversible damage to eyes

Skin contact .

Kit Component	ChIP Buffer (10X)
Skin contact	Expected to be an irritant based on components
Kit Component	DNA Binding Buffer
Skin contact	Expected to be an irritant based on components
Kit Component	Protease Inhibitor Cocktail (200X)
Skin contact	Expected to be an irritant based on components
Kit Component	RNAse A (10 mg/ml)
Skin contact	Expected to be an irritant based on components

Ingestion .

Kit Component	DNA Binding Buffer
Ingestion	Harmful if swallowed

Information on toxicological effects

Kit Component	DNA Binding Buffer
ATEmix (oral)	867 mg/kg
ATEmix (dermal)	25600 mg/kg

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
glycerol	= 12600 mg/kg (Rat)	> 10 g/kg (Rabbit)	> 570 mg/m³ (Rat) 1 h
dimethyl sulfoxide	14500 mg/kg (Rat)	40000 mg/kg (Rat)	-
propan-2-ol	5000 mg/kg (Rat)	12800 mg/kg (Rabbit)	16000 ppm (Rat) 8h
guanidinium chloride	475 mg/kg (Rat)	-	-
trometamol	5900 mg/kg (Rat)	-	-
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylether	= 1800 mg/kg (Rat)	= 8000 mg/kg (Rabbit)	-
glycine	9550 mg/kg (Rat)	-	-
sodium dodecyl sulphate	= 1288 mg/kg (Rat)	= 580 mg/kg (Rabbit)	> 3900 mg/m³ (Rat) 1 h
glycine, N,N'-1,2-ethanediylbis[N-(carboxymethyl)-, sodium salt, hydrate (1:2:2)	2800 mg/kg (Rat)	-	-
benzenesulfonyl fluoride, 4-(2-aminoethyl)-, hydrochloride (1:1)	2834 mg/kg (mouse)	-	-
sodium 3-alpha,12-alphadihydroxy-5beta-cholan-24-oate	1370 mg/kg (Rat)	-	-
sodium azide	= 27 mg/kg (Rat)	= 20 mg/kg (Rabbit) = 50 mg/kg (Rat)	-

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

Symptoms Contains kit components which may cause the following effects, refer to individual component SDSs for full information on symptoms:

Corrosive to the eyes and may cause irreversible eye damage. 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. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing.

Skin and Eye Corrosion/Irritation

Kit Component	ChIP Buffer (10X)
Skin corrosion/irritation	Causes skin irritation
Serious eye damage/eye irritation	Risk of serious damage to eyes
Kit Component	ChIP Elution Buffer (2X)
Serious eye damage/eye irritation	Causes serious eye irritation
Kit Component	DNA Binding Buffer
Skin corrosion/irritation	Causes skin irritation
Serious eye damage/eye irritation	Causes serious eye irritation
Kit Component	Protease Inhibitor Cocktail (200X)
Skin corrosion/irritation	Causes skin irritation
Serious eye damage/eye irritation	Causes serious eye irritation
Kit Component	RNAse A (10 mg/ml)
Skin corrosion/irritation	Causes skin irritation
Serious eye damage/eye irritation	Causes serious eye irritation
Kit Component	ChIP Sonication Nuclear Lysis Buffer
Serious eye damage/eye irritation	Causes serious eye irritation
Kit Component	ChIP Sonication Cell Lysis Buffer (2X)
Serious eye damage/eye irritation	Causes serious eye irritation

Sensitization .

Kit Component	Proteinase K (20 mg/ml)
Respiratory Sensitization	Contains a known respiratory sensitizer at low concentrations. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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.

Systemic Target Organ Toxicity (STOT)

Kit Component	DNA Binding Buffer
STOT - single exposure	May cause drowsiness or dizziness
Target Organ Effects	Central nervous system (CNS)
Kit Component	Protease Inhibitor Cocktail (200X)
Other adverse effects	May accelerate skin absorption of other materials. Special attention needed when toxic materials are present in dimethyl sulfoxide because of enhanced skin absorption.

Aspiration Hazard No information available.

SECTION 12. Ecological information

Ecotoxicity

Product Information No information available

Component Information

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
dimethyl sulfoxide	EC50 12350 - 25500 mg/L (Skeletonema costatum) 96 h	LC50 40 g/L (Lepomis macrochirus) 96 h LC50 33 - 37 g/L (Oncorhynchus mykiss) 96 h LC50 34000 mg/L (Pimephales promelas) 96 h LC50 41.7 g/L (Cyprinus carpio) 96 h	EC50 7000 mg/L (Daphnia species) 24 h
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	-
trometamol	-	-	NOEC >100 mg/L (Selenastrum capricornutum) 96 h
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylether	-	LC50 8.9 mg/l (Pimephales promelas) 96 h	EC50 26 mg/l (Daphnia) 48 h
sodium dodecyl sulphate	EC50 53 mg/L (Desmodesmus subspicatus) 72 h EC50 3.59 - 15.6 mg/L (Pseudokirchneriella subcapitata) 96 h EC50 117 mg/L (Pseudokirchneriella subcapitata) 96 h EC50 30 - 100 mg/L (Desmodesmus subspicatus) 96 h	LC50 8 - 12.5 mg/L (Pimephales promelas) 96 h LC50 1.31 mg/L (Cyprinus carpio) 96 h LC50 22.1 - 22.8 mg/L (Pimephales promelas) 96 h LC50 4.3 - 8.5 mg/L (Oncorhynchus mykiss) 96 h LC50 4.62 mg/L (Oncorhynchus mykiss) 96 h LC50 4.2 mg/L (Oncorhynchus	EC50 1.8 mg/L (Daphnia magna) 48 h

		mykiss) 96 h LC50 7.97 mg/L (Brachydanio rerio) 96 h LC50 9.9 - 20.1 mg/L (Brachydanio rerio) 96 h LC50 4.06 - 5.75 mg/L (Lepomis macrochirus) 96 h LC50 4.2 - 4.8 mg/L (Lepomis macrochirus) 96 h LC50 4.5 mg/L (Lepomis macrochirus) 96 h LC50 5.8 - 7.5 mg/L (Pimephales promelas) 96 h LC50 10.2 - 22.5 mg/L (Pimephales promelas) 96 h LC50 6.2 - 9.6 mg/L (Pimephales promelas) 96 h LC50 13.5 - 18.3 mg/L (Poecilia reticulata) 96 h LC50 10.8 - 16.6 mg/L (Poecilia reticulata) 96 h LC50 15 - 18.9 mg/L (Pimephales promelas) 96 h	
hydrochloric acid	-	LC50 282 mg/L (Gambusia affinis) 96 h	-
sodium azide	EC50 0.35 mg/L (Pseudokirchneriella subcapitata) 96 h	LC50 0.8 mg/L (Oncorhynchus mykiss) 96 h LC50 5.46 mg/L (Pimephales promelas) 96 h LC50 0.7 mg/L (Lepomis macrochirus) 96 h	LC100 1 mg/L (Orconectes rusticus) 96 h

Persistence and degradability .

Kit Component	ChIP Buffer (10X)
Persistence and degradability	Not readily biodegradable
Kit Component	DNA Binding Buffer
Persistence and degradability	Readily biodegradable
Kit Component	Protease Inhibitor Cocktail (200X)
Persistence and degradability	Degrades to dimethyl sulfide.

Bioaccumulation .

Kit Component	DNA Binding Buffer
Bioaccumulation	Not likely to bioaccumulate
Kit Component	Protease Inhibitor Cocktail (200X)
Bioaccumulation	Not likely to bioaccumulate

Chemical Name	Octanol-Water Partition Coefficient
glycerol	-1.76
dimethyl sulfoxide	-2.03
propan-2-ol	0.05
guanidinium chloride	-1.7
sodium dodecyl sulphate	1.6

Mobility

Kit Component	Protease Inhibitor Cocktail (200X)
Mobility	Will likely be mobile in the environment due to its water solubility

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 subject to regulation as a hazardous material for shipping:

DOT

UN number	UN3316
UN proper shipping name	Chemical Kits
Transport hazard class(es)	9
Packing group	II
Special provisions	15
Emergency response guide number	171

UN number	UN3316
UN proper shipping name	Chemical Kits
Transport hazard class(es)	9
Packing group	II
Special provisions	A163, A44

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
dimethyl sulfoxide	Listed	Not Listed	Listed	Not Listed
propan-2-ol	Listed	Not Listed	Listed	Not Listed
guanidinium chloride	Listed	Not Listed	Listed	Not Listed
trometamol	Listed	Not Listed	Listed	Not Listed
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylether	Listed	Not Listed	Listed	Not Listed
glycine	Listed	Not Listed	Listed	Not Listed
sodium dodecyl sulphate	Listed	Not Listed	Listed	Not Listed
glycine, N,N'-1,2-ethanediylbis[N-(carboxymethyl)-, sodium salt, hydrate (1:2:2)	Not Listed	Not Listed	Listed	Not Listed
sodium 3-alpha,12-alphadihydroxy-5beta-cholan-24-oate	Listed	Not Listed	Listed	Not Listed
2-amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	Listed	Not Listed	Listed	Not Listed
hydrochloric acid	Listed	Not Listed	Listed	Not Listed
sodium 4-(2-hydroxyethyl)piperazin-1-ylethanesulphonate	Listed	Not Listed	Not Listed	Listed
sodium azide	Listed	Not Listed	Listed	Not Listed

SARA 313

Refer to kit component SDS for full SARA Section 313 reporting requirements.

Chemical Name	CAS No	SARA 313 - Threshold Values %
propan-2-ol	67-63-0	1.0
hydrochloric acid	7647-01-0	1.0
hydrochloric acid	7647-01-0	1.0
sodium azide	26628-22-8	1.0

SARA 311/312 Hazard Categories

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

Clean Water Act

Refer to kit component SDS for full Clean Water Act (CWA) reporting requirements.

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances	CWA - Bioaccumulative Chemicals of Concern (BCCs)
hydrochloric acid	5000 lb	Not Listed	Not Listed	Listed	Not Listed

CERCLA

Refer to kit component SDS for full Comprehensive Environmental Response Compensation and Liability Act (CERCLA) reporting requirements.

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
hydrochloric acid	5000 lb	5000 lb
sodium azide	1000 lb	1000 lb

California Proposition 65

Refer to kit component SDS for full California Proposition 65 information.

U.S. State Right-to-Know Regulations

Refer to kit component SDS for applicable State Right-To-Know (RTK) information.

Chemical Name	New Jersey	Massachusetts	Pennsylvania
glycerol	Listed	Listed	Listed
dimethyl sulfoxide	Listed	Not Listed	Not Listed
propan-2-ol	Listed	Listed	Listed
hydrochloric acid	Listed	Listed	Listed
hydrochloric acid	Listed	Listed	Listed
sodium azide	Listed	Listed	Listed

SECTION 16. Other information

Revision Date: 2017-01-13
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