

### Kit Summary

**Product Code(s)** AB133034  
**Product name** 12(S)-HETE ELISA Kit

#### 20X Wash Buffer Concentrate

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
Benzalkonium chloride	-	8001-54-5	0.007	Skin Corr. 1B (H314) Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332)	-
Magnesium nitrate	233-826-7	10377-60-3	0.003	Eye Irrit. 2 (H319) Ox. Sol. 2 (H272)	-
5-Chloro-2-methyl-3-isothiazolone	247-500-7	26172-55-4	0.002	STOT SE 3 (H335) Skin Corr. 1B (H314) Eye Dam. 1 (H318) Skin Sens. 1 (H317) Acute Tox. 3 (H301) Acute Tox. 3 (H311) Aquatic Acute 1 (H400)	-
2-methyl-4-isothiazolin-3-one	220-239-6	2682-20-4	0.001	STOT SE 3 (H335) Skin Corr. 1B (H314) Eye Dam. 1 (H318) Skin Sens. 1 (H317) Acute Tox. 3 (H301) Acute Tox. 3 (H311) Aquatic Acute 1 (H400)	-

#### pNpp Substrate

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
Diethanolamine	203-868-0	111-42-2	12	STOT RE 2 (H373) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Acute Tox. 4 (H302)	-

#### Stop Solution

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
Sodium phosphate tribasic dodecahydrate	-	10101-89-0	10	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)	-
Sodium azide	247-852-1	26628-22-8	0.09	Acute Tox. 2 (H300) Acute Tox. 1 (H310) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) (EUH032)	-

#### Assay Buffer

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
Zinc sulphate	-	7446-20-0	0.03	Eye Dam. 1 (H318) Acute Tox. 4 (H302) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	-
Sodium azide	247-852-1	26628-22-8	0.009	Acute Tox. 2 (H300) Acute Tox. 1 (H310) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) (EUH032)	-

#### 12(S)-HETE Antibody

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
Zinc sulphate	-	7446-20-0	0.03	Eye Dam. 1 (H318) Acute Tox. 4 (H302) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	-
Sodium azide	247-852-1	26628-22-8	0.008	Acute Tox. 2 (H300) Acute Tox. 1 (H310) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) (EUH032)	-

#### 12(S)-HETE Standard

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
Ethanol	200-578-6	64-17-5	50	Flam. Liq. 2 (H225)	-

#### 12(S)-HETE Conjugate

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
Zinc sulphate	-	7446-20-0	0.03	Eye Dam. 1 (H318) Acute Tox. 4 (H302) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	-
Sodium azide	247-852-1	26628-22-8	0.008	Acute Tox. 2 (H300) Acute Tox. 1 (H310) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) (EUH032)	-

#### GHS / CLP - GHS - Classification



**Signal Word**

Danger

**Hazard statements**

H318 - Causes serious eye damage

H373 - May cause damage to organs through prolonged or repeated exposure

H315 - Causes skin irritation

H226 - Flammable liquid and vapor

**Precautionary Statements - EU (§28, 1272/2008)**

P280 - Wear protective gloves/ eye protection/ face protection

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking

P370 + P378 - In case of fire: Use foam for extinction

P264 - Wash face, hands and any exposed skin thoroughly after handling

P314 - Get medical advice/ attention if you feel unwell

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P310 - Immediately call a POISON CENTER or doctor/ physician

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

P332 + P313 - If skin irritation occurs: Get medical advice/ attention

P363 - Wash contaminated clothing before reuse

P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing

P310 - Immediately call a POISON CENTER or doctor/ physician

P233 - Keep container tightly closed

P403 + P235 - Store in a well-ventilated place. Keep cool

P405 - Store locked up

P501 - Dispose of contents/ container to an approved waste disposal plant

**2.3 Other information**

A safety datasheet follows for all potentially hazardous components – all other components are non-hazardous.

**TRANSPORT INFORMATION**

<b>DOT</b>	Excepted Quantity
<b>Proper shipping name</b>	Ethanol
<b>Hazard class</b>	3
<b>UN/ID No</b>	UN 1170
<b>Packing group</b>	III

<b>IATA</b>	Excepted Quantity
<b>UN/ID No</b>	UN 1170
<b>Proper shipping name</b>	Ethanol
<b>Hazard class</b>	3

**Packing group**

III

**ADR**

**Proper shipping name**

Excepted Quantity

**Hazard class**

Ethanol

**UN/ID No**

3

**Packing group**

UN 1170

III

# Safety Data Sheet

Issuing date No data available

Revision Date 01-Feb-2019

Version 6

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name** 20X Wash Buffer Concentrate

**Recommended use** For research use only

**Supplier Address** Abcam Inc  
1 Kendall Square, Ste 341  
Cambridge, MA 02139-1517  
USA  
Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free)  
Fax: (866) 739-9884 or (866) 457-9616 (both US toll free)

**E-mail address** technical@abcam.com

**Emergency telephone** Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free) - Monday-Friday 8am-9pm EST

## 2. HAZARDS IDENTIFICATION

### GHS - Classification

Ozone	Not applicable
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### GHS Label elements, including precautionary statements

Not dangerous

### Other information

No information available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
Benzalkonium chloride	8001-54-5	<0.1	Skin Corr. 1B (H314) Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332)
Magnesium nitrate	10377-60-3	<0.1	Eye Irrit. 2 (H319) Ox. Sol. 2 (H272)
5-Chloro-2-methyl-3-isothiazolone	26172-55-4	<0.1	STOT SE 3 (H335) Skin Corr. 1B (H314) Eye Dam. 1 (H318) Skin Sens. 1 (H317) Acute Tox. 3 (H301) Acute Tox. 3 (H311) Aquatic Acute 1 (H400)
2-methyl-4-isothiazolin-3-one	2682-20-4	<0.1	STOT SE 3 (H335) Skin Corr. 1B (H314) Eye Dam. 1 (H318) Skin Sens. 1 (H317) Acute Tox. 3 (H301) Acute Tox. 3 (H311) Aquatic Acute 1 (H400)

For the full text of the H-Statements mentioned in this Section, see Section 16

### 4. FIRST AID MEASURES

<b>Eye contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
<b>Inhalation</b>	Move to fresh air.
<b>Ingestion</b>	Clean mouth with water. Drink plenty of water.
<b>Notes to physician</b>	Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

<b>Flammable properties</b>	Not flammable.
<b>Flash point</b>	not determined
<b>Suitable extinguishing media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Explosion Data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	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 to prevent contact with skin and eyes.

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions** Ensure adequate ventilation.

**Environmental precautions** Try to prevent the material from entering drains or water courses.

**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.

**7. HANDLING AND STORAGE**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice.

**Technical measures/Storage conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Exposure Guidelines** This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Engineering measures** Showers  
Eyewash stations  
Ventilation systems

**Personal protective equipment**

- Eye/face protection** No special protective equipment required.
- Skin and body protection** No special protective equipment required.
- 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.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	No information available.	<b>Odor</b>	No information available.
<b>Odor Threshold</b>	No information available	<b>Physical State @20°C</b>	No information available
<b>pH</b>	No information available	<b>Autoignition temperature</b>	No information available
<b>Flash point</b>	No information available	<b>Boiling point/boiling range</b>	No information available
<b>Decomposition temperature</b>	No information available	<b>Flammability Limits in Air</b>	No information available
<b>Melting point/range</b>	No information available		
<b>Explosion limits</b>	No information available	<b>solubility</b>	No information available.
<b>Specific Gravity</b>	No data available	<b>Vapor Pressure @20°C (kPa)</b>	No information available
<b>Evaporation rate</b>	No information available	<b>VOC Content(%)</b>	Not applicable
<b>Vapor density</b>	No data available		

**10. STABILITY AND REACTIVITY**

**Stability** Stable under recommended storage conditions.

**Incompatible products** None known based on information supplied.

**Conditions to avoid** None known based on information supplied.

**Hazardous decomposition products** None known based on information supplied.

**Hazardous polymerization** Hazardous polymerization does not occur.

**11. TOXICOLOGICAL INFORMATION**

**Acute toxicity**

**Product Information** Irritating to skin, eyes and / or respiratory tract.

**Inhalation** May cause irritation of respiratory tract

**Eye contact** May cause irritation

**Ingestion** Ingestion may cause irritation to mucous membranes

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
5-Chloro-2-methyl-3-isothiazolone	481 mg/kg (Rat)		1.25 mg/l (Rat, 4 h)

**Chronic toxicity**

**carcinogenicity** This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B)

Chemical Name	ACGIH	IARC	NTP	OSHA
Magnesium nitrate		Group 2A		X

**Target Organ Effects** None known.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

The environmental impact of this product has not been fully investigated.



**13. DISPOSAL CONSIDERATIONS**

**Waste disposal methods** This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

**Contaminated packaging** Do not re-use empty containers.

**California Hazardous Waste Codes** 561

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Magnesium nitrate	Ignitable Reactive

**14. TRANSPORT INFORMATION**

**DOT** Not dangerous goods

**IATA** Not dangerous goods

**ADR** Not dangerous goods

**15. REGULATORY INFORMATION**

**U.S. Federal Regulations**

**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**

<b>Acute Health Hazard</b>	yes
<b>Chronic Health Hazard</b>	no
<b>Fire Hazard</b>	no
<b>Sudden Release of Pressure Hazard</b>	no
<b>Reactive Hazard</b>	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.

**U.S. State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Magnesium nitrate	X	X	X		X

**International Regulations**

**WHMIS Note:**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**16. OTHER INFORMATION**

**Full text of H-Statements referred to under sections 2 and 3**

H272 - May intensify fire; oxidizer H301 + H331 - Toxic if swallowed or if inhaled H302 + H312 + H332 - Harmful if swallowed, in contact with skin or if inhaled H314 - Causes severe skin burns and eye damage H317 - May cause an allergic skin reaction H318 - Causes serious eye damage H319 - Causes serious eye irritation H335 - May cause respiratory irritation H400 - Very toxic to aquatic life

**Revision Date**

01-Feb-2019

**Revision Note**

No information available.

**Disclaimer**

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

**End of MSDS**

# Safety Data Sheet

Issuing date No data available

Revision Date 01-Feb-2019

Version 5

## 1. PRODUCT AND COMPANY IDENTIFICATION

<b>Product name</b>	<b>pNpp Substrate</b>
<b>Recommended use</b>	For research use only
<b>Supplier Address</b>	Abcam Inc 1 Kendall Square, Ste 341 Cambridge, MA 02139-1517 USA Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free) Fax: (866) 739-9884 or (866) 457-9616 (both US toll free)
<b>E-mail address</b>	technical@abcam.com
<b>Emergency telephone</b>	Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free) - Monday-Friday 8am-9pm EST

## 2. HAZARDS IDENTIFICATION

### GHS - Classification

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Specific target organ systemic toxicity (repeated exposure)	Category 2

### GHS Label elements, including precautionary statements



### Signal Word

Danger

### Hazard statements

H315 - Causes skin irritation

H318 - Causes serious eye damage

H373 - May cause damage to organs through prolonged or repeated exposure

**Precautionary Statements - EU (§28, 1272/2008)**

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P280 - Wear protective gloves/ eye protection/ face protection

P264 - Wash face, hands and any exposed skin thoroughly after handling

P362 - Take off contaminated clothing and wash before reuse

P314 - Get medical advice/ attention if you feel unwell

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P310 - Immediately call a POISON CENTER or doctor/ physician

P332 + P313 - If skin irritation occurs: Get medical advice/ attention

P501 - Dispose of contents/ container to an approved waste disposal plant

**Other information**

No information available

**3. COMPOSITION/INFORMATION ON INGREDIENTS****3.1 Substances**

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
Diethanolamine	111-42-2	7-13	STOT RE 2 (H373) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Acute Tox. 4 (H302)

For the full text of the H-Statements mentioned in this Section, see Section 16

**4. FIRST AID MEASURES**

<b>General advice</b>	Immediate medical attention is required. If symptoms persist, call a physician.
<b>Eye contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Immediate medical attention is required. If symptoms persist, call a physician.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required. If symptoms persist, call a physician.
<b>Inhalation</b>	Move to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Immediate medical attention is required. If symptoms persist, call a physician.
<b>Ingestion</b>	Rinse mouth. Do NOT induce vomiting. Immediate medical attention is required. If symptoms persist, call a physician.
<b>Notes to physician</b>	Treat symptomatically.
<b>Protection of first-aiders</b>	Use personal protective equipment. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

**5. FIRE-FIGHTING MEASURES**

<b>Flammable properties</b>	Not flammable.
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<b>Flash point</b>	not determined
<b>Suitable extinguishing media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Explosion Data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	None.
<b>Protective equipment and precautions for firefighters</b>	Wear self contained breathing apparatus for fire fighting if necessary.

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	Use personal protective equipment. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
<b>Environmental precautions</b>	Try to prevent the material from entering drains or water courses.
<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	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.

## 7. HANDLING AND STORAGE

<b>Advice on safe handling</b>	Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Remove and wash contaminated clothing before re-use. Do not breathe vapors or spray mist. Do not eat, drink or smoke when using this product. Use only in area provided with appropriate exhaust ventilation.
<b>Technical measures/Storage conditions</b>	Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Exposure Guidelines** This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Diethanolamine 111-42-2	TWA: 1 mg/m <sup>3</sup> inhalable fraction and vapor S*	(vacated) TWA: 3 ppm (vacated) TWA: 15 mg/m <sup>3</sup>	TWA: 3 ppm TWA: 15 mg/m <sup>3</sup>

NIOSH IDLH: *Immediately Dangerous to Life or Health*

**Other Exposure Guidelines** Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

**Engineering measures**  
Showers  
Eyewash stations  
Ventilation systems

**Personal protective equipment**

**Eye/face protection** Tightly fitting safety goggles. Face-shield.  
**Skin and body protection** No special protective equipment required.  
**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.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	No information available.	<b>Odor</b>	No information available.
<b>Odor Threshold</b>	No information available	<b>Physical State @20°C</b>	No information available
<b>pH</b>	No information available	<b>Autoignition temperature</b>	No information available
<b>Flash point</b>	No information available	<b>Boiling point/boiling range</b>	No information available
<b>Decomposition temperature</b>	No information available	<b>Flammability Limits in Air</b>	No information available
<b>Melting point/range</b>	No information available	<b>solubility</b>	No information available.
<b>Explosion limits</b>	No information available	<b>Vapor Pressure @20°C (kPa)</b>	No information available
<b>Specific Gravity</b>	No data available	<b>VOC Content(%)</b>	12
<b>Evaporation rate</b>	No information available		
<b>Vapor density</b>	No data available		

**10. STABILITY AND REACTIVITY**

**Stability** Stable under recommended storage conditions.

**Incompatible products** None known based on information supplied.

**Conditions to avoid** None known based on information supplied.

**Hazardous decomposition products** None known based on information supplied.

**Hazardous polymerization** Hazardous polymerization does not occur.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

<b>Product Information</b>	Corrosive to skin, eyes and/or respiratory tract. Irritating to skin, eyes and / or respiratory tract.
<b>Inhalation</b>	Corrosive by inhalation Causes burns May cause irritation of respiratory tract
<b>Eye contact</b>	Causes burns Corrosive to eyes May cause irritation
<b>Skin contact</b>	Corrosive Causes burns May cause irritation
<b>Ingestion</b>	Causes burns Ingestion may cause irritation to mucous membranes

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Diethanolamine	620 µL/kg ( Rat )	7640 µL/kg ( Rabbit )	

### Chronic toxicity

**Chronic toxicity** Avoid repeated exposure

**carcinogenicity** This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B)

Chemical Name	ACGIH	IARC	NTP	OSHA
Diethanolamine	A3	Group 3		

**ACGIH: (American Conference of Governmental Industrial Hygienists)**

A3 - Animal Carcinogen

**IARC: (International Agency for Research on Cancer)**

Group 3 - Not Classifiable as to Carcinogenicity in Humans

**Target Organ Effects** Eyes. Respiratory system. Skin.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Diethanolamine	7.8: 72 h Desmodesmus subspicatus mg/L EC50 2.1 - 2.3: 96 h Pseudokirchneriella subcapitata mg/L EC50	4460-4980: 96 h Pimephales promelas mg/L LC50 flow-through 1200-1580: 96 h Pimephales promelas mg/L LC50 static 600-1000: 96 h Lepomis macrochirus mg/L LC50 static		55: 48 h Daphnia magna mg/L EC50
<b>Chemical Name</b>			<b>log Pow</b>	
Diethanolamine			-2.18	

**13. DISPOSAL CONSIDERATIONS**

**Waste disposal methods** This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

**Contaminated packaging** Do not re-use empty containers.

**14. TRANSPORT INFORMATION**

**DOT** Not dangerous goods

**IATA** Not dangerous goods

**ADR** Not dangerous goods

**15. REGULATORY INFORMATION**

**U.S. Federal Regulations**

**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	Weight %	SARA 313 - Threshold Values %
Diethanolamine	111-42-2	12	1.0

**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.

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Diethanolamine	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ

**U.S. State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**



Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Diethanolamine	X	X	X	X	X

**International Regulations****WHMIS Note:**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**16. OTHER INFORMATION****Full text of H-Statements referred to under sections 2 and 3**

H373 - May cause damage to organs through prolonged or repeated exposure if inhaled H315 - Causes skin irritation H318 - Causes serious eye damage H302 - Harmful if swallowed

**Hazard statements**

H315 - Causes skin irritation

H318 - Causes serious eye damage

H373 - May cause damage to organs through prolonged or repeated exposure

**Revision Date** 01-Feb-2019

**Revision Note** No information available.

**Disclaimer**

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

**End of MSDS**

# Safety Data Sheet

Issuing date No data available

Revision Date 01-Feb-2019

Version 6

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name** Stop Solution

**Recommended use** For research use only

**Supplier Address** Abcam Inc  
1 Kendall Square, Ste 341  
Cambridge, MA 02139-1517  
USA  
Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free)  
Fax: (866) 739-9884 or (866) 457-9616 (both US toll free)

**E-mail address** technical@abcam.com

**Emergency telephone** Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free) - Monday-Friday 8am-9pm EST

## 2. HAZARDS IDENTIFICATION

### GHS - Classification

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

### GHS Label elements, including precautionary statements



### Signal Word

Warning

### Hazard statements

H315 - Causes skin irritation

H319 - Causes serious eye irritation

### Precautionary Statements - EU (§28, 1272/2008)

P264 - Wash face, hands and any exposed skin thoroughly after handling

P280 - Wear protective gloves/ eye protection/ face protection

P332 + P313 - If skin irritation occurs: Get medical advice/ attention

P362 - Take off contaminated clothing and wash before reuse

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P337 + P313 - If eye irritation persists: Get medical advice/ attention

**Other information**

No information available

**3. COMPOSITION/INFORMATION ON INGREDIENTS****3.1 Substances**

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
Sodium phosphate tribasic dodecahydrate	10101-89-0	7-13	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)
Sodium azide	26628-22-8	<0.1	Acute Tox. 2 (H300) Acute Tox. 1 (H310) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) (EUH032)

For the full text of the H-Statements mentioned in this Section, see Section 16

**4. FIRST AID MEASURES**

<b>General advice</b>	If symptoms persist, call a physician.
<b>Eye contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If symptoms persist, call a physician.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
<b>Inhalation</b>	Move to fresh air. If symptoms persist, call a physician.
<b>Ingestion</b>	Rinse mouth. If symptoms persist, call a physician.
<b>Notes to physician</b>	Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. Treat symptomatically.

**5. FIRE-FIGHTING MEASURES**

<b>Flammable properties</b>	Not flammable.
<b>Flash point</b>	not determined
<b>Suitable extinguishing media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Explosion Data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	None.

<b>Specific hazards arising from the chemical</b>	The product causes burns of eyes, skin and mucous membranes Thermal decomposition can lead to release of irritating gases and vapors In the event of fire and/or explosion do not breathe fumes
<b>Protective equipment and precautions for firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear to prevent contact with skin and eyes.

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	Evacuate personnel to safe areas. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Keep people away from and upwind of spill/leak.
<b>Environmental precautions</b>	Try to prevent the material from entering drains or water courses.
<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Dike far ahead of liquid spill for later disposal. Soak up with inert absorbent material. Take up mechanically and collect in suitable container for disposal. Clean contaminated surface thoroughly. Prevent product from entering drains. Dam up. After cleaning, flush away traces with water.
<b>Other information</b>	Refer to protective measures listed in sections 7 and 8.

## 7. HANDLING AND STORAGE

<b>Advice on safe handling</b>	Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation at machinery.
<b>Technical measures/Storage conditions</b>	Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Exposure Guidelines** This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium azide 26628-22-8	Ceiling: 0.29 mg/m <sup>3</sup> NaN <sub>3</sub> Ceiling: 0.11 ppm Hydrazoic acid vapor	(vacated) S* (vacated) Ceiling: 0.1 ppm HN <sub>3</sub> (vacated) Ceiling: 0.3 mg/m <sup>3</sup> NaN <sub>3</sub>	Ceiling: 0.1 ppm HN <sub>3</sub> Ceiling: 0.3 mg/m <sup>3</sup> NaN <sub>3</sub>

*NIOSH IDLH: Immediately Dangerous to Life or Health*

**Other Exposure Guidelines** Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

**Engineering measures**  
Showers  
Eyewash stations  
Ventilation systems

**Personal protective equipment**

**Eye/face protection** Tightly fitting safety goggles. Face-shield.  
**Skin and body protection** No special protective equipment required.  
**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. Remove and wash contaminated clothing before re-use. Keep away from food, drink and animal feeding stuffs. Contaminated work clothing should not be allowed out of the workplace. Provide regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. For environmental protection, remove and wash all contaminated protective equipment before re-use. Wear suitable gloves and eye/face protection.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	No information available.	<b>Odor</b>	No information available.
<b>Odor Threshold</b>	No information available	<b>Physical State @20°C</b>	No information available
<b>pH</b>	No information available	<b>Autoignition temperature</b>	No information available
<b>Flash point</b>	No information available	<b>Boiling point/boiling range</b>	No information available
<b>Decomposition temperature</b>	No information available	<b>Flammability Limits in Air</b>	No information available
<b>Melting point/range</b>	No information available	<b>solubility</b>	No information available.
<b>Explosion limits</b>	No information available	<b>Vapor Pressure @20°C (kPa)</b>	No information available
<b>Specific Gravity</b>	No data available	<b>VOC Content(%)</b>	Not applicable
<b>Evaporation rate</b>	No information available		
<b>Vapor density</b>	No data available		

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under recommended storage conditions.
<b>Incompatible products</b>	Incompatible with strong acids and bases. Incompatible with oxidizing agents.
<b>Conditions to avoid</b>	Exposure to air or moisture over prolonged periods.
<b>Hazardous decomposition products</b>	Thermal decomposition can lead to release of irritating gases and vapors.
<b>Hazardous polymerization</b>	Hazardous polymerization does not occur.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

<b>Product Information</b>	Corrosive to skin, eyes and/or respiratory tract. Irritating to skin, eyes and / or respiratory tract.
<b>Inhalation</b>	Corrosive by inhalation Causes burns May cause irritation of respiratory tract
<b>Eye contact</b>	Causes burns Corrosive to eyes May cause irritation
<b>Skin contact</b>	May cause irritation
<b>Ingestion</b>	Causes burns Ingestion may cause irritation to mucous membranes

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium azide	27 mg/kg ( Rat )	50 mg/kg ( Rat ) 20 mg/kg ( Rabbit )	

### Chronic toxicity

<b>Chronic toxicity</b>	Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen Avoid repeated exposure Possible risks of irreversible effects
<b>Target Organ Effects</b>	None known.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Sodium azide		0.8: 96 h Oncorhynchus mykiss mg/L LC50 0.7: 96 h Lepomis macrochirus mg/L LC50 5.46: 96 h Pimephales promelas mg/L LC50 flow-through		

**13. DISPOSAL CONSIDERATIONS**

**Waste disposal methods** This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

**Contaminated packaging** Do not re-use empty containers.

**US EPA Waste Number** P105

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Sodium azide - 26628-22-8		P105		

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Sodium azide	Ignitable Reactive

**14. TRANSPORT INFORMATION**

**DOT** Not dangerous goods

**IATA** Not dangerous goods

**ADR** Not dangerous goods

**15. REGULATORY INFORMATION**

**U.S. Federal Regulations**

**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.

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Sodium azide	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ

**U.S. State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Sodium azide	X	X	X		X

**International Regulations****WHMIS Note:**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**16. OTHER INFORMATION****Full text of H-Statements referred to under sections 2 and 3**

H315 - Causes skin irritation H319 - Causes serious eye irritation H300 - Fatal if swallowed H310 - Fatal in contact with skin H400 - Very toxic to aquatic life H410 - Very toxic to aquatic life with long lasting effects

**Hazard statements**

H315 - Causes skin irritation

H319 - Causes serious eye irritation

**Revision Date**

01-Feb-2019

**Revision Note**

No information available.

**Disclaimer**

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**End of MSDS**



# Safety Data Sheet

Issuing date No data available

Revision Date 01-Feb-2019

Version 3

## 1. PRODUCT AND COMPANY IDENTIFICATION

<b>Product name</b>	<b>Assay Buffer</b>
<b>Recommended use</b>	For research use only
<b>Supplier Address</b>	Abcam Inc 1 Kendall Square, Ste 341 Cambridge, MA 02139-1517 USA Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free) Fax: (866) 739-9884 or (866) 457-9616 (both US toll free)
<b>E-mail address</b>	technical@abcam.com
<b>Emergency telephone</b>	Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free) - Monday-Friday 8am-9pm EST

## 2. HAZARDS IDENTIFICATION

### GHS - Classification

Ozone	Not applicable
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### GHS Label elements, including precautionary statements

Not dangerous

### Other information

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

For the full text of the H-Statements mentioned in this Section, see Section 16

#### 4. FIRST AID MEASURES

<b>Eye contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
<b>Inhalation</b>	Move to fresh air.
<b>Ingestion</b>	Clean mouth with water. Drink plenty of water.
<b>Notes to physician</b>	Treat symptomatically.

#### 5. FIRE-FIGHTING MEASURES

<b>Flammable properties</b>	Not flammable.
<b>Flash point</b>	not determined
<b>Suitable extinguishing media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Explosion Data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	None.
<b>Protective equipment and precautions for firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear to prevent contact with skin and eyes.

#### 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	Ensure adequate ventilation.
<b>Environmental precautions</b>	Try to prevent the material from entering drains or water courses.
<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Pick up and transfer to properly labeled containers.

#### 7. HANDLING AND STORAGE

<b>Advice on safe handling</b>	Handle in accordance with good industrial hygiene and safety practice.
<b>Technical measures/Storage conditions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Exposure Guidelines** This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium azide 26628-22-8	Ceiling: 0.29 mg/m <sup>3</sup> NaN <sub>3</sub> Ceiling: 0.11 ppm Hydrazoic acid vapor	(vacated) S* (vacated) Ceiling: 0.1 ppm HN <sub>3</sub> (vacated) Ceiling: 0.3 mg/m <sup>3</sup> NaN <sub>3</sub>	Ceiling: 0.1 ppm HN <sub>3</sub> Ceiling: 0.3 mg/m <sup>3</sup> NaN <sub>3</sub>

*NIOSH IDLH: Immediately Dangerous to Life or Health*

**Other Exposure Guidelines** Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

**Engineering measures**  
Showers  
Eyewash stations  
Ventilation systems

### Personal protective equipment

**Eye/face protection**

No special protective equipment required.

**Skin and body protection**

No special protective equipment required.

**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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	No information available.	<b>Odor</b>	No information available.
<b>Odor Threshold</b>	No information available	<b>Physical State @20°C</b>	No information available
<b>pH</b>	No information available	<b>Autoignition temperature</b>	No information available
<b>Flash point</b>	No information available	<b>Boiling point/boiling range</b>	No information available
<b>Decomposition temperature</b>	No information available	<b>Flammability Limits in Air</b>	No information available
<b>Melting point/range</b>	No information available	<b>solubility</b>	No information available.
<b>Explosion limits</b>	No information available	<b>Vapor Pressure @20°C (kPa)</b>	No information available
<b>Specific Gravity</b>	No data available	<b>VOC Content(%)</b>	Not applicable
<b>Evaporation rate</b>	No information available		
<b>Vapor density</b>	No data available		

## 10. STABILITY AND REACTIVITY

**Stability** Stable under recommended storage conditions.

**Incompatible products** None known based on information supplied.

**Conditions to avoid** None known based on information supplied.

**Hazardous decomposition products** None known based on information supplied.

**Hazardous polymerization** Hazardous polymerization does not occur.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

**Product Information** Product does not present an acute toxicity hazard based on known or supplied information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Zinc sulphate	1260 mg/kg ( Rat )		
Sodium azide	27 mg/kg ( Rat )	50 mg/kg ( Rat ) 20 mg/kg ( Rabbit )	

### Chronic toxicity

**Target Organ Effects** None known.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Sodium azide		0.8: 96 h Oncorhynchus mykiss mg/L LC50 0.7: 96 h Lepomis macrochirus mg/L LC50 5.46: 96 h Pimephales promelas mg/L LC50 flow-through		

## 13. DISPOSAL CONSIDERATIONS

**Waste disposal methods** This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

**Contaminated packaging** Do not re-use empty containers.

**US EPA Waste Number** P105

This product contains one or more substances that are listed with the State of California as a hazardous waste.

## 14. TRANSPORT INFORMATION

**DOT** Not dangerous goods

**IATA** Not dangerous goods

**ADR** Not dangerous goods

## 15. REGULATORY INFORMATION

### U.S. Federal Regulations

**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**

<b>Acute Health Hazard</b>	no
<b>Chronic Health Hazard</b>	no
<b>Fire Hazard</b>	no
<b>Sudden Release of Pressure Hazard</b>	no
<b>Reactive Hazard</b>	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.

**U.S. State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Sodium azide	X	X	X		X
Zinc sulphate			X		

**International Regulations**

**WHMIS Note:**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**16. OTHER INFORMATION**

**Full text of H-Statements referred to under sections 2 and 3**

H300 - Fatal if swallowed H302 - Harmful if swallowed H310 - Fatal in contact with skin H318 - Causes serious eye damage H400 - Very toxic to aquatic life H410 - Very toxic to aquatic life with long lasting effects

**Revision Date** 01-Feb-2019  
**Revision Note** No information available.

**Disclaimer**

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**End of MSDS**

# Safety Data Sheet

Issuing date No data available

Revision Date 01-Feb-2019

Version 3

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name** 12(S)-HETE Antibody

**Recommended use** For research use only

**Supplier Address** Abcam Inc  
1 Kendall Square, Ste 341  
Cambridge, MA 02139-1517  
USA  
Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free)  
Fax: (866) 739-9884 or (866) 457-9616 (both US toll free)

**E-mail address** technical@abcam.com

**Emergency telephone** Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free) - Monday-Friday 8am-9pm EST

## 2. HAZARDS IDENTIFICATION

### GHS - Classification

Ozone	Not applicable
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### GHS Label elements, including precautionary statements

Not dangerous

### Other information

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

For the full text of the H-Statements mentioned in this Section, see Section 16

#### 4. FIRST AID MEASURES

<b>Eye contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
<b>Inhalation</b>	Move to fresh air.
<b>Ingestion</b>	Clean mouth with water. Drink plenty of water.
<b>Notes to physician</b>	Treat symptomatically.

#### 5. FIRE-FIGHTING MEASURES

<b>Flammable properties</b>	Not flammable.
<b>Flash point</b>	not determined
<b>Suitable extinguishing media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Explosion Data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	None.
<b>Protective equipment and precautions for firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear to prevent contact with skin and eyes.

#### 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	Ensure adequate ventilation.
<b>Environmental precautions</b>	Try to prevent the material from entering drains or water courses.
<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Pick up and transfer to properly labeled containers.

#### 7. HANDLING AND STORAGE

<b>Advice on safe handling</b>	Handle in accordance with good industrial hygiene and safety practice.
<b>Technical measures/Storage conditions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Exposure Guidelines** This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium azide 26628-22-8	Ceiling: 0.29 mg/m <sup>3</sup> NaN <sub>3</sub> Ceiling: 0.11 ppm Hydrazoic acid vapor	(vacated) S* (vacated) Ceiling: 0.1 ppm HN <sub>3</sub> (vacated) Ceiling: 0.3 mg/m <sup>3</sup> NaN <sub>3</sub>	Ceiling: 0.1 ppm HN <sub>3</sub> Ceiling: 0.3 mg/m <sup>3</sup> NaN <sub>3</sub>

*NIOSH IDLH: Immediately Dangerous to Life or Health*

**Other Exposure Guidelines** Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

**Engineering measures**  
Showers  
Eyewash stations  
Ventilation systems

### Personal protective equipment

**Eye/face protection**

No special protective equipment required.

**Skin and body protection**

No special protective equipment required.

**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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	No information available.	<b>Odor</b>	No information available.
<b>Odor Threshold</b>	No information available	<b>Physical State @20°C</b>	No information available
<b>pH</b>	No information available	<b>Autoignition temperature</b>	No information available
<b>Flash point</b>	No information available	<b>Boiling point/boiling range</b>	No information available
<b>Decomposition temperature</b>	No information available	<b>Flammability Limits in Air</b>	No information available
<b>Melting point/range</b>	No information available	<b>solubility</b>	No information available.
<b>Explosion limits</b>	No information available	<b>Vapor Pressure @20°C (kPa)</b>	No information available
<b>Specific Gravity</b>	No data available	<b>VOC Content(%)</b>	Not applicable
<b>Evaporation rate</b>	No information available		
<b>Vapor density</b>	No data available		

## 10. STABILITY AND REACTIVITY

**Stability** Stable under recommended storage conditions.

**Incompatible products** None known based on information supplied.

**Conditions to avoid** None known based on information supplied.

**Hazardous decomposition products** None known based on information supplied.

**Hazardous polymerization** Hazardous polymerization does not occur.



## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

**Product Information** Product does not present an acute toxicity hazard based on known or supplied information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Zinc sulphate	1260 mg/kg ( Rat )		
Sodium azide	27 mg/kg ( Rat )	50 mg/kg ( Rat ) 20 mg/kg ( Rabbit )	

### Chronic toxicity

**Target Organ Effects** None known.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Sodium azide		0.8: 96 h Oncorhynchus mykiss mg/L LC50 0.7: 96 h Lepomis macrochirus mg/L LC50 5.46: 96 h Pimephales promelas mg/L LC50 flow-through		

## 13. DISPOSAL CONSIDERATIONS

**Waste disposal methods** This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

**Contaminated packaging** Do not re-use empty containers.

**US EPA Waste Number** P105

This product contains one or more substances that are listed with the State of California as a hazardous waste.

## 14. TRANSPORT INFORMATION

**DOT** Not dangerous goods

**IATA** Not dangerous goods

**ADR** Not dangerous goods

## 15. REGULATORY INFORMATION

### U.S. Federal Regulations

**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**

<b>Acute Health Hazard</b>	no
<b>Chronic Health Hazard</b>	no
<b>Fire Hazard</b>	no
<b>Sudden Release of Pressure Hazard</b>	no
<b>Reactive Hazard</b>	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.

**U.S. State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Sodium azide	X	X	X		X
Zinc sulphate			X		

**International Regulations**

**WHMIS Note:**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**16. OTHER INFORMATION**

**Full text of H-Statements referred to under sections 2 and 3**

H300 - Fatal if swallowed H302 - Harmful if swallowed H310 - Fatal in contact with skin H318 - Causes serious eye damage H400 - Very toxic to aquatic life H410 - Very toxic to aquatic life with long lasting effects

**Revision Date** 01-Feb-2019  
**Revision Note** No information available.

**Disclaimer**

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

**End of MSDS**

# Safety Data Sheet

Issuing date No data available

Revision Date 01-Feb-2019

Version 7

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name** 12(S)-HETE Standard

**UN/ID No** UN 1170

**Recommended use** For research use only

**Supplier Address** Abcam Inc  
1 Kendall Square, Ste 341  
Cambridge, MA 02139-1517  
USA  
Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free)  
Fax: (866) 739-9884 or (866) 457-9616 (both US toll free)

**E-mail address** technical@abcam.com

**Emergency telephone** Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free) - Monday-Friday 8am-9pm EST

## 2. HAZARDS IDENTIFICATION

### GHS - Classification

Flammable liquids	Category 3
-------------------	------------

### GHS Label elements, including precautionary statements



**Signal Word**  
Danger

### **Hazard statements**

H226 - Flammable liquid and vapor

### **Precautionary Statements - EU (§28, 1272/2008)**

P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection

P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking

P370 + P378 - In case of fire: Use foam for extinction

P233 - Keep container tightly closed

P403 + P235 - Store in a well-ventilated place. Keep cool

P501 - Dispose of contents/ container to an approved waste disposal plant

**Other information**

No information available

**3. COMPOSITION/INFORMATION ON INGREDIENTS****3.1 Substances**

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
Ethanol	64-17-5	30-60	Flam. Liq. 2 (H225)

For the full text of the H-Statements mentioned in this Section, see Section 16

**4. FIRST AID MEASURES**

<b>Eye contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
<b>Inhalation</b>	Move to fresh air.
<b>Ingestion</b>	Clean mouth with water. Drink plenty of water.
<b>Notes to physician</b>	Treat symptomatically.

**5. FIRE-FIGHTING MEASURES**

<b>Flammable properties</b>	Not flammable.
<b>Flash point</b>	not determined
<b>Suitable extinguishing media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Explosion Data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	None.
<b>Protective equipment and precautions for firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear to prevent contact with skin and eyes.

**6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions**                      Ensure adequate ventilation.
- Environmental precautions**            Try to prevent the material from entering drains or water courses.
- 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.

**7. HANDLING AND STORAGE**

- Advice on safe handling**                 Handle in accordance with good industrial hygiene and safety practice.
- Technical measures/Storage conditions**    Keep containers tightly closed in a dry, cool and well-ventilated place.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Exposure Guidelines**                      This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ethanol 64-17-5	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup> (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m <sup>3</sup>	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup>

**Engineering measures**                      Showers  
Eyewash stations  
Ventilation systems

**Personal protective equipment**

- Eye/face protection**                      No special protective equipment required.
- Skin and body protection**                No special protective equipment required.
- 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.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	No information available.	<b>Odor</b>	No information available.
<b>Odor Threshold</b>	No information available	<b>Physical State @20°C</b>	No information available
<b>pH</b>	No information available	<b>Autoignition temperature</b>	No information available
<b>Flash point</b>	No information available	<b>Boiling point/boiling range</b>	No information available
<b>Decomposition temperature</b>	No information available	<b>Flammability Limits in Air</b>	No information available
<b>Melting point/range</b>	No information available	<b>solubility</b>	No information available.
<b>Explosion limits</b>	No information available	<b>Vapor Pressure @20°C (kPa)</b>	No information available
<b>Specific Gravity</b>	No data available	<b>VOC Content(%)</b>	50
<b>Evaporation rate</b>	No information available		
<b>Vapor density</b>	No data available		

**10. STABILITY AND REACTIVITY**

**Stability** Stable under recommended storage conditions.

**Incompatible products** None known based on information supplied.

**Conditions to avoid** None known based on information supplied.

**Hazardous decomposition products** None known based on information supplied.

**Hazardous polymerization** Hazardous polymerization does not occur.

**11. TOXICOLOGICAL INFORMATION**

Acute toxicity

**Product Information** Product does not present an acute toxicity hazard based on known or supplied information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethanol	7060 mg/kg ( Rat )		124.7 mg/L ( Rat ) 4 h

Chronic toxicity

**Chronic toxicity** May cause adverse liver effects Contains a known or suspected reproductive toxin

**carcinogenicity** This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B)

Chemical Name	ACGIH	IARC	NTP	OSHA
Ethanol	A3		Known	X

**ACGIH: (American Conference of Governmental Industrial Hygienists)**

A3 - Animal Carcinogen

**IARC: (International Agency for Research on Cancer)**

Group 1 - Carcinogenic to Humans

**NTP: (National Toxicity Program)**

Known - Known Carcinogen

**OSHA: (Occupational Safety & Health Administration)**

X - Present

**Target Organ Effects** Blood. Central nervous system (CNS). Eyes. Liver. Reproductive System. Respiratory system. Skin.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Ethanol		12.0 - 16.0: 96 h Oncorhynchus mykiss mL/L LC50 static 100: 96 h Pimephales promelas mg/L LC50 static 13400 - 15100: 96 h Pimephales promelas mg/L LC50 flow-through		9268 - 14221: 48 h Daphnia magna mg/L LC50 10800: 24 h Daphnia magna mg/L EC50 2: 48 h Daphnia magna mg/L EC50 Static
<b>Chemical Name</b>		<b>log Pow</b>		
Ethanol		-0.32		

**13. DISPOSAL CONSIDERATIONS**

**Waste disposal methods**

This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

**Contaminated packaging**

Do not re-use empty containers.

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Ethanol	Toxic Ignitable

**14. TRANSPORT INFORMATION**

**DOT** Excepted Quantity  
**Proper shipping name** Ethanol  
**Hazard class** 3  
**UN/ID No** UN 1170  
**Packing group** III

**IATA** Excepted Quantity  
**UN/ID No** UN 1170  
**Proper shipping name** Ethanol  
**Hazard class** 3  
**Packing group** III

**ADR** Excepted Quantity  
**Proper shipping name** Ethanol  
**Hazard class** 3  
**UN/ID No** UN 1170  
**Packing group** III

**15. REGULATORY INFORMATION**

**U.S. Federal Regulations**

**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**

<b>Acute Health Hazard</b>	no
<b>Chronic Health Hazard</b>	no
<b>Fire Hazard</b>	no
<b>Sudden Release of Pressure Hazard</b>	no
<b>Reactive Hazard</b>	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.

**U.S. State Regulations**

**California Proposition 65**

This product contains the following Proposition 65 chemicals:

Chemical Name	CAS-No	California Prop. 65
Ethanol	64-17-5	Carcinogen Developmental

**U.S. State Right-to-Know Regulations**

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Ethanol	X	X	X		X

**International Regulations**

Chemical Name	Carcinogen Status	Exposure limits
Ethanol		Mexico: TWA 1000 ppm Mexico: TWA 1900 mg/m <sup>3</sup>

**WHMIS Note:**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.



**16. OTHER INFORMATION****Full text of H-Statements referred to under sections 2 and 3**

H225 - Highly flammable liquid and vapor

**Hazard statements**

H226 - Flammable liquid and vapor

**Revision Date** 01-Feb-2019**Revision Note** No information available.**Disclaimer**

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

**End of MSDS**

# Safety Data Sheet

Issuing date No data available

Revision Date 01-Feb-2019

Version 3

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name** 12(S)-HETE Conjugate

**Recommended use** For research use only

**Supplier Address** Abcam Inc  
1 Kendall Square, Ste 341  
Cambridge, MA 02139-1517  
USA  
Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free)  
Fax: (866) 739-9884 or (866) 457-9616 (both US toll free)

**E-mail address** technical@abcam.com

**Emergency telephone** Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free) - Monday-Friday 8am-9pm EST

## 2. HAZARDS IDENTIFICATION

### GHS - Classification

Ozone	Not applicable
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### GHS Label elements, including precautionary statements

Not dangerous

### Other information

No information available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
Zinc sulphate	7446-20-0	<0.1	Eye Dam. 1 (H318) Acute Tox. 4 (H302) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Sodium azide	26628-22-8	<0.1	Acute Tox. 2 (H300) Acute Tox. 1 (H310) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) (EUH032)

For the full text of the H-Statements mentioned in this Section, see Section 16

### 4. FIRST AID MEASURES

<b>Eye contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
<b>Inhalation</b>	Move to fresh air.
<b>Ingestion</b>	Clean mouth with water. Drink plenty of water.
<b>Notes to physician</b>	Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

<b>Flammable properties</b>	Not flammable.
<b>Flash point</b>	not determined
<b>Suitable extinguishing media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Explosion Data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	None.
<b>Protective equipment and precautions for firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear to prevent contact with skin and eyes.

**6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions**                      Ensure adequate ventilation.
- Environmental precautions**            Try to prevent the material from entering drains or water courses.
- 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.

**7. HANDLING AND STORAGE**

- Advice on safe handling**                Handle in accordance with good industrial hygiene and safety practice.
- Technical measures/Storage conditions**    Keep containers tightly closed in a dry, cool and well-ventilated place.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Exposure Guidelines**                      This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium azide 26628-22-8	Ceiling: 0.29 mg/m <sup>3</sup> NaN <sub>3</sub> Ceiling: 0.11 ppm Hydrazoic acid vapor	(vacated) S* (vacated) Ceiling: 0.1 ppm HN <sub>3</sub> (vacated) Ceiling: 0.3 mg/m <sup>3</sup> NaN <sub>3</sub>	Ceiling: 0.1 ppm HN <sub>3</sub> Ceiling: 0.3 mg/m <sup>3</sup> NaN <sub>3</sub>

*NIOSH IDLH: Immediately Dangerous to Life or Health*

- Other Exposure Guidelines**            Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).
- Engineering measures**                    Showers  
Eyewash stations  
Ventilation systems
- Personal protective equipment**
  - Eye/face protection**                      No special protective equipment required.
  - Skin and body protection**                No special protective equipment required.
  - 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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	No information available.	<b>Odor</b>	No information available.
<b>Odor Threshold</b>	No information available	<b>Physical State @20°C</b>	No information available
<b>pH</b>	No information available	<b>Autoignition temperature</b>	No information available
<b>Flash point</b>	No information available	<b>Boiling point/boiling range</b>	No information available
<b>Decomposition temperature</b>	No information available	<b>Flammability Limits in Air</b>	No information available
<b>Melting point/range</b>	No information available	<b>solubility</b>	No information available.
<b>Explosion limits</b>	No information available	<b>Vapor Pressure @20°C (kPa)</b>	No information available
<b>Specific Gravity</b>	No data available	<b>VOC Content(%)</b>	Not applicable
<b>Evaporation rate</b>	No information available		
<b>Vapor density</b>	No data available		

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under recommended storage conditions.
<b>Incompatible products</b>	None known based on information supplied.
<b>Conditions to avoid</b>	None known based on information supplied.
<b>Hazardous decomposition products</b>	None known based on information supplied.
<b>Hazardous polymerization</b>	Hazardous polymerization does not occur.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

**Product Information** Product does not present an acute toxicity hazard based on known or supplied information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Tris	5900 mg/kg ( Rat )		
Zinc sulphate	1260 mg/kg ( Rat )		
Sodium azide	27 mg/kg ( Rat )	50 mg/kg ( Rat ) 20 mg/kg ( Rabbit )	

### Chronic toxicity

**Target Organ Effects** None known.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Sodium azide		0.8: 96 h Oncorhynchus mykiss mg/L LC50 0.7: 96 h Lepomis macrochirus mg/L LC50 5.46: 96 h Pimephales promelas mg/L LC50 flow-through		

**13. DISPOSAL CONSIDERATIONS**

**Waste disposal methods** This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

**Contaminated packaging** Do not re-use empty containers.

**US EPA Waste Number** P105

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Sodium azide - 26628-22-8		P105		

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Zinc sulphate	Toxic
Sodium azide	Ignitable Reactive

**14. TRANSPORT INFORMATION**

**DOT** Not dangerous goods

**IATA** Not dangerous goods

**ADR** Not dangerous goods

**15. REGULATORY INFORMATION**

**U.S. Federal Regulations**

**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**

<b>Acute Health Hazard</b>	no
<b>Chronic Health Hazard</b>	no
<b>Fire Hazard</b>	no
<b>Sudden Release of Pressure Hazard</b>	no
<b>Reactive Hazard</b>	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).

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Zinc sulphate		X		

**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.

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Sodium azide	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ

**U.S. State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Zinc sulphate			X		
Sodium azide	X	X	X		X

**International Regulations**

**WHMIS Note:**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**16. OTHER INFORMATION**

**Full text of H-Statements referred to under sections 2 and 3**

H300 - Fatal if swallowed H310 - Fatal in contact with skin H400 - Very toxic to aquatic life H410 - Very toxic to aquatic life with long lasting effects

**Revision Date** 01-Feb-2019  
**Revision Note** No information available.

**Disclaimer**

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

**End of MSDS**