



Kit Summary

Product Cat #: X2044K1,2

Product name: DNA Fragmentation Detection Kit

Kit Components:

Proteinase K

Chemical Name	EC-No	CAS-No	Weight %	Classification (67/548)	Classification (Reg. 1272/2008)	REACH Registration Number *
Tris	201-064-4	77-86-1	10.1	Xi; R36/37/38	STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)	No data available
2-Chloroacetamide	201-174-2	79-07-2	0.3	T; R25 R43 Repr.Cat.3; R62	Acute Tox. 3 (H301) Skin Sens. 1 (H317) Repr. 2 (H361f)	No data available

TdT Labeling Reaction Mix

Chemical Name	EC-No	CAS-No	Weight %	Classification (67/548)	Classification (Reg. 1272/2008)	REACH Registration Number *
Cacodylic acid sodium salt trihydrate	682-793-9	6131-99-3	15	T;R25 T;R23 Carc.Cat.3 ;R40 N;R50-53	Carc. 2 (H351) Acute Tox. 3 (H301) Acute Tox. 3 (H331) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	A registration number is not available for this substance because the substance or its use is excluded from registration, no registration is required for the annual volume or the registration is provided with a later registration deadline.
Hydrochloric acid	231-595-7	7647-01-0	2.1	C; R34 Xi; R37 R10 Xn; R65 R43 Xi; R36 N; R50-53 Xi; R38	STOT SE 3 (H335) Asp. Tox. 1 (H304) Skin Corr. 1B (H314) Eye Irrit. 2 (H319) Skin Sens. 1 (H317) Aquatic Acute 1 (H400)	No data available



						Aquatic Chronic 1 (H410) Flam Liq. 1 (H224)	
2'-Deoxycytidine-5'-triphosphate disodium salt (aqueous)	none	2056-98-6	1		-		No data available
Cobalt Chloride	231-589-4	7791-13-1	0.1		R49, R60, R22, R68, R42/43, R50/53	Resp. Sens. 1 (H334) Skin Sens. 1 (H317) Aquatic Chronic 4 (H413)	No data available
2-Chloroacetamide	201-174-2	79-07-2	0.3		T; R25 R43 Repr.Cat. 3; R62	Acute Tox. 3 (H301) Skin Sens. 1 (H317) Repr. 2 (H361f)	No data available

TdT Enzyme

Chemical Name	EC-No	CAS-No	Weight %	Classification (67/548)	Classification (Reg. 1272/2008)	REACH Registration Number *
Sodium hydroxide	215-185-5	1310-73-2	1	C; R35	Skin Corr. 1A (H314)	No data available
Tris HCl	214-684-5	1185-53-1	0.1	Xi; R36/37/38	STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)	No data available
2-Chloroacetamide	201-174-2	79-07-2	0.3	T; R25 R43 Repr.Cat.3; R62	Acute Tox. 3 (H301) Skin Sens. 1 (H317) Repr. 2 (H361f)	No data available

Stop Buffer

Chemical Name	EC-No	CAS-No	Weight %	Classification (67/548)	Classification (Reg. 1272/2008)	REACH Registration Number *
EDTA	200-449-4	60-00-4	15	Xi; R36 N; R52/53	Eye Irrit. 2 (H319) Aquatic Chronic 3 (H412)	No data available
2-Chloroacetamide	201-174-2	79-07-2	0.3	T; R25 R43 Repr.Cat.3; R62	Acute Tox. 3 (H301) Skin Sens. 1 (H317) Repr. 2 (H361f)	No data available



Block Buffer

Chemical Name	EC-No	CAS-No	Weight %	Classification (67/548)	Classification (Reg. 1272/2008)	REACH Registration Number *
2-Chloroacetamide	201-174-2	79-07-2	0.3	T; R25 R43 Repr.Cat.3; R62	Acute Tox. 3 (H301) Skin Sens. 1 (H317) Repr. 2 (H361f)	No data available

DAB Concentrate

Chemical Name	EC-No	CAS-No	Weight %	Classification (67/548)	Classification (Reg. 1272/2008)	REACH Registration Number *
DAB (3,3'-Diaminobenzidine tetrahydrochloride)	808-580-4	868272-85-9	5	Xi; R36/37/38	Eye Irrit. 2 (H319) STOT SE 3 (H335) Skin Irrit. 2 (H315)	No data available

Methyl Green Counterstain

Chemical Name	EC-No	CAS-No	Weight %	Classification (67/548)	Classification (Reg. 1272/2008)	REACH Registration Number *
Methyl Green	230-415-4	7114-03-6	0.3	Xi; R36/37/38	STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)	No data available

TdT Equilibration Buffer

Chemical Name	EC-No	CAS-No	Weight %	Classification (67/548)	Classification (Reg. 1272/2008)	REACH Registration Number *
Cacodylic acid sodium salt trihydrate	682-793-9	6131-99-3	3	T;R25 T;R23 Carc.Cat.3;R40 N;R50-53	Carc. 2 (H351) Acute Tox. 3 (H301) Acute Tox. 3 (H331) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	No data available
Cobalt Chloride	231-589-4	7791-13-1	1	R49, R60, R22, R68, R42/43, R50/53	Resp. Sens. 1 (H334) Skin Sens. 1 (H317) Aquatic Chronic 4 (H413)	No data available
Hydrochloric acid	231-595-7	7647-01-0	0.2	C; R34 Xi; R37 R10 Xn; R65 R43 Xi; R36 N; R50-53 Xi; R38	STOT SE 3 (H335) Asp. Tox. 1 (H304) Skin Corr. 1B (H314) Eye Irrit. 2 (H319) Skin Sens. 1 (H317)	No data available



					Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) Flam Liq. 1 (H224)	
2-Chloroacetamide	201-174-2	79-07-2	0.3	T; R25 R43 Repr.Cat.3; R62	Acute Tox. 3 (H301) Skin Sens. 1 (H317) Repr. 2 (H361f)	No data available

25x Streptavidin-HRP Conjugate

Chemical Name	EC-No	CAS-No	Weight %	Classification (67/548)	Classification (Reg. 1272/2008)	REACH Registration Number *
2-Chloroacetamide	201-174-2	79-07-2	0.3	T; R25 R43 Repr.Cat.3; R62	Acute Tox. 3 (H301) Skin Sens. 1 (H317) Repr. 2 (H361f)	No data available

*A REACH registration number is not available for these substances because the substances or their use is excluded from registration, no registration is required for the annual volume or the registration is provided with a later registration deadline.

GHS / CLP - GHS - Classification



Signal Word: Danger

Hazard statements

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 - May cause an allergic skin reaction.

H332 - Harmful if inhaled.

H351 - Suspected of causing cancer.

H411 - Toxic to aquatic life with long lasting effects.

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

P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician.

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.

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

P304 + P341 - IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.



- P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention.
- P337 + P313 - If eye irritation persists: Get medical advice/ attention.
- P363 - Wash contaminated clothing before reuse.
- P362 - Take off contaminated clothing and wash before reuse.
- P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
- P272 - Contaminated work clothing should not be allowed out of the workplace.
- P280 - Wear protective gloves/ eye protection/ face protection.
- P501 - Dispose of contents/ container to an approved waste disposal plant.
- P285 - In case of inadequate ventilation wear respiratory protection.
- P264 - Wash face, hands and any exposed skin thoroughly after handling.
- P308 + P313 - IF exposed or concerned: Get medical advice/ attention.
- P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
- P201 - Obtain special instructions before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- P281 - Use personal protective equipment as required.
- P405 - Store locked up.
- P273 - Avoid release to the environment.
- P391 - Collect spillage.
- P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
- P312 - Call a POISON CENTER or doctor/ physician if you feel unwell.

2.3 Other information

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

TRANSPORT INFORMATION

DOT Not dangerous goods

IATA Not dangerous goods

ADR Not dangerous goods



Safety Data Sheet

Section 1: Product and Company Identification

Product Name: Proteinase K

Part Number: J0134

Kit Catalog Number: X2044K1, X2044K2

Kit Product Name: DNA Fragmentation Detection Kit

Recommended use: For research use only

Manufacturer:

Exalpha Biologicals, Inc
2 Shaker Road, Unit B101
Shirley, MA 01464
(978) 425-1370 (U.S.A.)

Emergency Telephone Numbers:

Contact National Poison Information Center

Section 2. Hazards Identification

GHS-Classification

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Ozone	Not applicable
Skin sensitization	Category 1

GHS Label elements, including precautionary statements



Signal Word: Warning

Hazard statements

H315 - Causes skin irritation.

H317 - May cause an allergic skin reaction.

H319 - Causes serious eye irritation.

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



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.

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

P362 - Take off contaminated clothing and wash before reuse.

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

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

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention.

P363 - Wash contaminated clothing before reuse.

P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P272 - Contaminated work clothing should not be allowed out of the workplace.

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

Other information: No information available.

Section 3. Composition/Information on Ingredients

3.1 Substances

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
Tris	77-86-1	7-13	STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)
2-Chloroacetamide	79-07-2	0.1-1	Acute Tox. 3 (H301) Skin Sens. 1 (H317) Repr. 2 (H361f)

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

Section 4. First Aid Measure

General advice: If symptoms persist, call a physician.

Eye contact: 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.

Skin contact: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. May cause an allergic skin reaction. If symptoms persist, call a physician.

Inhalation: Move to fresh air. If symptoms persist, call a physician.

Ingestion: Rinse mouth. Drink plenty of water. If symptoms persist, call a physician.

Notes to physician: May cause sensitization of susceptible persons. Treat symptomatically.

Section 5. Fire Fighting Measures

Flammable properties: Not flammable.

Flash point: not determined.

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Explosion Data:

Sensitivity to Mechanical Impact: None.



Sensitivity to Static Discharge: None.

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

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.

Section 6. Accidental Release Measures

Personal precautions: Ensure adequate ventilation. Use personal protective equipment. Avoid contact with the skin and the eyes.

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: Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. After cleaning, flush away traces with water. Prevent product from entering drains.

Section 7. Handling & Storage

Advice on safe handling: Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation. Wear personal protective equipment.

Technical measures/Storage conditions: Keep out of the reach of children. Keep container tightly closed. Keep containers tightly closed in a cool, well-ventilated place.

Section 8. Exposure Controls and 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: Tightly fitting safety goggles.

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. When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use.

Section 9. Physical and Chemical Properties

Appearance: No information available.

Odor Threshold: No information available.

pH: No information available.

Flash point: No information available.

Decomposition temperature: No information available.

Melting point/range: No information available.

Explosion limits: No information available.

Specific Gravity: No data available



Evaporation rate: No information available.
VOC Content (%): Not applicable
Odor: No information available.
Physical State at 20°C: No information available.
Autoignition temperature: No information available.
Boiling point/boiling range: No information available.
Flammability Limits in Air: No information available.
Solubility: No information available.
Vapor density: No data available

Section 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.

Section 11. Toxicological Information

Acute toxicity

Product Information: Irritating to skin, eyes and / or respiratory tract. May cause sensitization of susceptible persons.

Inhalation: May cause irritation of respiratory tract.

Eye contact: May cause irritation.

Skin contact: May cause irritation.

Ingestion: Ingestion may cause irritation to mucous membranes.

Chronic toxicity: Repeated contact may cause allergic reactions in very susceptible persons Avoid repeated exposure.

Sensitization: As a precaution the product should be treated as a sensitizer.

Target Organ Effects: None known.

Section 12. Ecological Information

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

Chemical Name	log Pow
2-Chloroacetamide	-0.53

Section 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.

Section 14. Transport Information

DOT: Not dangerous goods



IATA: Not dangerous goods

ADR: Not dangerous goods

Section 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: no

Fire Hazard: no

Sudden Release of Pressure Hazard: no

Reactive Hazard: no

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

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

U.S. State Regulations

California Proposition 65: This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

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.

Section 16. Other information

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

H335 - May cause respiratory irritation

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H301 - Toxic if swallowed

H317 - May cause an allergic skin reaction

H361f - Suspected of damaging fertility

Hazard statements

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H317 - May cause an allergic skin reaction

Version 1

Revision Date 03 Oct 2019

Revision Note No information available.



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Prepared by: Exalpha Biologicals, Inc
Phone Number: 978-425-1370 (U.S.A.)



Safety Data Sheet

Section 1: Product and Company Identification

Product Name: TdT Equilibration Buffer

Part Number: J0136

Kit Catalog Number: X2044K1, X2044K2

Kit Product Name: DNA Fragmentation Detection Kit

Recommended use: For research use only

Manufacturer:

Exalpha Biologicals, Inc
2 Shaker Road, Unit B101
Shirley, MA 01464
(978) 425-1370 (U.S.A.)

Emergency Telephone Numbers:

Contact National Poison Information Center

Section 2. Hazards Identification

GHS-Classification

Respiratory sensitization	Category 1
Skin sensitization	Category 1
Carcinogenicity	Category 2
Chronic aquatic toxicity	Category 2
Ozone	Not applicable

GHS Label elements, including precautionary statements



Signal Word: Danger, Warning

Hazard statements

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 - May cause an allergic skin reaction.

H351 - Suspected of causing cancer.

H411 - Toxic to aquatic life with long lasting effects.

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

P304 + P341 - IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.



- P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention.
- P308 + P313 - IF exposed or concerned: Get medical advice/ attention.
- P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
- P272 - Contaminated work clothing should not be allowed out of the workplace.
- P280 - Wear protective gloves/ eye protection/ face protection.
- P363 - Wash contaminated clothing before reuse.
- P501 - Dispose of contents/ container to an approved waste disposal plant.
- P285 - In case of inadequate ventilation wear respiratory protection.
- P201 - Obtain special instructions before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- P281 - Use personal protective equipment as required.
- P405 - Store locked up.
- P273 - Avoid release to the environment.
- P391 - Collect spillage.
- P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.

Other information: No information available.

Section 3. Composition/Information on Ingredients

3.1 Substances

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
Cacodylic acid sodium salt trihydrate	6131-99-3	1-5	Carc. 2 (H351) Acute Tox. 3 (H301) Acute Tox. 3 (H331) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Cobalt Chloride	7791-13-1	1-5	Resp. Sens. 1 (H334) Skin Sens. 1 (H317) Aquatic Chronic 4 (H413)
2-Chloroacetamide	79-07-2	0.1-1	Acute Tox. 3 (H301) Skin Sens. 1 (H317) Repr. 2 (H361f)

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

Section 4. First Aid Measure

General advice: If symptoms persist, call a physician.

Eye contact: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.

Skin contact: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. May cause an allergic skin reaction. If symptoms persist, call a physician.

Inhalation: Move to fresh air. Artificial respiration and/or oxygen may be necessary. If symptoms persist, call a physician.

Ingestion: Clean mouth with water. Drink plenty of water.

Notes to physician: May cause sensitization of susceptible persons. Treat symptomatically.



Section 5. Fire Fighting Measures

Flammable properties: Not flammable.

Flash point: not determined.

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Explosion Data

Sensitivity to Mechanical Impact: None.

Sensitivity to Static Discharge: None.

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

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.

Section 6. Accidental Release Measures

Personal precautions: Use personal protective equipment. Keep people away from and upwind of spill/leak. Avoid contact with the skin and the eyes.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Try to prevent the material from entering drains or water courses.

Methods for containment: Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up: Cover liquid spill with sand, earth or other noncombustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Sweep up and shovel into suitable containers for disposal. Soak up with inert absorbent material. After cleaning, flush away traces with water. Prevent product from entering drains.

Section 7. Handling & Storage

Advice on safe handling: Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product. Wear personal protective equipment. Do not breathe vapors or spray mist. Ensure adequate ventilation.

Technical measures/Storage conditions: 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.

Section 8. Exposure Controls and 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
Hydrochloric acid 7647-01-0	Ceiling: 2 ppm	(vacated) Ceiling: 5 ppm (vacated) Ceiling: 7 mg/m ³ Ceiling: 5 ppm Ceiling: 7 mg/m ³	IDLH: 50 ppm Ceiling: 5 ppm Ceiling: 7 mg/m ³

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.

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. Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Keep away from food, drink and animal feeding stuffs. Remove and wash contaminated clothing before re-use.

Section 9. Physical and Chemical Properties

Appearance: No information available.

Odor Threshold: No information available.

pH: No information available.

Flash point: No information available.

Decomposition temperature: No information available.

Melting point/range: No information available.

Explosion limits: No information available.

Specific Gravity: No data available.

Evaporation rate: No information available.

VOC Content(%): Not applicable.

Odor: No information available.

Physical State at 20°C: No information available.

Autoignition temperature: No information available.

Boiling point/boiling range: No information available.

Flammability Limits in Air: No information available.

Solubility: No information available.

Vapor density: No data available

Section 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.

Section 11. Toxicological Information

Acute toxicity

Product Information: May cause sensitization of susceptible persons.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Hydrochloric acid	700 mg/kg (Rat)	5010 mg/kg (Rabbit)	3124 ppm (Rat) 1 h

Chronic toxicity: Repeated contact may cause allergic reactions in very susceptible persons 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)

IARC: (International Agency for Research on Cancer)

Group 3 - Not Classifiable as to Carcinogenicity in Humans

Sensitization: As a precaution the product should be treated as a sensitizer.

Mutagenic effects: Possible risks of irreversible effects.

Target Organ Effects: None known.

Section 12. Ecological Information

Ecotoxicity: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. 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
Hydrochloric acid		282: 96 h Gambusia affinis mg/L LC50 static		

Chemical Name	log Pow
2-Chloroacetamide	-0.53

Section 13. Disposal Considerations

Waste disposal methods: Dispose of in accordance with local regulations.

Contaminated packaging: Do not re-use empty containers.

Section 14. Transport Information

DOT: Not dangerous goods

IATA: Not dangerous goods

ADR: Not dangerous goods

Section 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.

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
Hydrochloric acid	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.

Section 16. Other information

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

H351 - Suspected of causing cancer

H301 - Toxic if swallowed

H331 - Toxic if inhaled

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

H335 - May cause respiratory irritation

H314 - Causes severe skin burns and eye damage

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

H317 - May cause an allergic skin reaction

H413 - May cause long lasting harmful effects to aquatic life

H411 - Toxic to aquatic life with long lasting effects

H361f - Suspected of damaging fertility

Hazard statements

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

H317 - May cause an allergic skin reaction

H351 - Suspected of causing cancer

H411 - Toxic to aquatic life with long lasting effects

Version 1

Revision Date 03 Oct 2019

Revision Note No information available.

Disclaimer:

Exalpha Biologicals, Inc provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person



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Prepared by: Exalpha Biologicals, Inc
Phone Number: 978-425-1370 (U.S.A.)



Safety Data Sheet

Section 1: Product and Company Identification

Product Name: TdT Labeling Reaction Mix

Part Number: J0141

Kit Catalog Number: X2044K1, X2044K2

Kit Product Name: DNA Fragmentation Detection Kit

Recommended use: For research use only

Manufacturer:

Exalpha Biologicals, Inc
2 Shaker Road, Unit B101
Shirley, MA 01464
(978) 425-1370 (U.S.A.)

Emergency Telephone Numbers:

Contact National Poison Information Center

Section 2. Hazards Identification

GHS-Classification

Acute inhalation toxicity - dust/mist	Category 4
Carcinogenicity	Category 2
Chronic aquatic toxicity	Category 2
Ozone	Not applicable
Skin sensitization	Category 1

GHS Label elements, including precautionary statements



Signal Word: Warning

Hazard statements

H332 - Harmful if inhaled.

H351 - Suspected of causing cancer.

H411 - Toxic to aquatic life with long lasting effects.

H317 - May cause an allergic skin reaction.



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

- P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
- P312 - Call a POISON CENTER or doctor/ physician if you feel unwell.
- P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
- P271 - Use only outdoors or in a well-ventilated area.
- P201 - Obtain special instructions before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- P281 - Use personal protective equipment as required.
- P405 - Store locked up.
- P501 - Dispose of contents/ container to an approved waste disposal plant.
- P273 - Avoid release to the environment.
- P391 - Collect spillage.
- P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
- P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention.
- P363 - Wash contaminated clothing before reuse.
- P272 - Contaminated work clothing should not be allowed out of the workplace.
- P280 - Wear protective gloves/ eye protection/ face protection.

Other information: No information available.

Section 3. Composition/Information on Ingredients

3.1 Substances

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
Cacodylic acid sodium salt trihydrate	6131-99-3	10-30	Carc. 2 (H351) Acute Tox. 3 (H301) Acute Tox. 3 (H331) Aquatic Acute 1 (H400) A quatic Chronic 1 (H410)
2'-Deoxycytidine-5'-triphosphate disodium salt (aqueous)	2056-98-6	1-5	
Cobalt Chloride	7791-13-1	0.1-1	Resp. Sens. 1 (H334) Skin Sens. 1 (H317) Aquatic Chronic 4 (H413)
2-Chloroacetamide	79-07-2	0.1-1	Acute Tox. 3 (H301) Skin Sens. 1 (H317) Repr. 2 (H361f)

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

Section 4. First Aid Measure

General advice: If symptoms persist, call a physician.

Eye contact: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.

Skin contact: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. May cause an allergic skin reaction. If symptoms persist, call a physician.

Inhalation: Move to fresh air. If symptoms persist, call a physician



Ingestion: Clean mouth with water. Drink plenty of water.

Notes to physician: Treat symptomatically. May cause sensitization of susceptible persons.

Section 5. Fire Fighting Measures

Flammable properties: Not flammable.

Flash point: not determined.

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Explosion Data

Sensitivity to Mechanical Impact: None.

Sensitivity to Static Discharge: None.

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

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.

Section 6. Accidental Release Measures

Personal precautions: Use personal protective equipment. Keep people away from and upwind of spill/leak. Avoid contact with the skin and the eyes.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Try to prevent the material from entering drains or water courses.

Methods for containment: Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up: Cover liquid spill with sand, earth or other noncombustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water. Prevent product from entering drains.

Section 7. Handling & Storage

Advice on safe handling: 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. Ensure adequate ventilation

Technical measures/Storage conditions: Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

Section 8. Exposure Controls and Personal Protection

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

NIOSH IDLH: Immediately Dangerous to Life or Health

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Hydrochloric acid 7647-01-0	Ceiling: 2 ppm	(vacated) Ceiling: 5 ppm (vacated) Ceiling: 7 mg/m ³	IDLH: 50 ppm Ceiling: 5 ppm Ceiling: 7 mg/m ³



		Ceiling: 5 ppm Ceiling: 7 mg/m ³	
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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.

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. Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Keep away from food, drink and animal feeding stuffs.

Section 9. Physical and Chemical Properties

Appearance: No information available.

Odor Threshold: No information available.

pH: No information available.

Flash point: No information available.

Decomposition temperature: No information available.

Melting point/range: No information available.

Explosion limits: No information available.

Specific Gravity: No data available.

Evaporation rate: No information available.

VOC Content(%): Not applicable

Odor: No information available.

Physical State at 20°C: No information available.

Autoignition temperature: No information available.

Boiling point/boiling range: No information available.

Flammability Limits in Air: No information available.

solubility: No information available.

Vapor density: No data available.

Section 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.

Section 11. Toxicological Information

Acute toxicity

Product Information: Harmful by inhalation. May cause sensitization of susceptible persons.

Inhalation: Harmful by inhalation.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
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Hydrochloric acid	700 mg/kg (Rat)	5010 mg/kg (Rabbit)	3124 ppm (Rat) 1 h
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Chronic toxicity: Repeated contact may cause allergic reactions in very susceptible persons. 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).

IARC: (International Agency for Research on Cancer)

Group 3 - Not Classifiable as to Carcinogenicity in Humans.

Sensitization: As a precaution the product should be treated as a sensitizer.

Mutagenic effects: Possible risks of irreversible effects.

Target Organ Effects: Eyes. Respiratory system. Skin.

Section 12. Ecological Information

Ecotoxicity: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. 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
Hydrochloric acid		282: 96 h Gambusia affinis mg/L LC50 static		

Chemical Name	log Pow
2-Chloroacetamide	-0.53

Section 13. Disposal Considerations

Waste disposal methods: Dispose of in accordance with local regulations.

Contaminated packaging: Do not re-use empty containers.

Section 14. Transport Information

DOT: Not dangerous goods.

IATA: Not dangerous goods.

ADR: Not dangerous goods.

Section 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 %
Hydrochloric acid	7647-01-0	2.1	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.

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
Hydrochloric acid	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.

Section 16. Other information

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

H351 - Suspected of causing cancer

H301 - Toxic if swallowed

H331 - Toxic if inhaled

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

H335 - May cause respiratory irritation

H314 - Causes severe skin burns and eye damage

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

H317 - May cause an allergic skin reaction

H413 - May cause long lasting harmful effects to aquatic life

H332 - Harmful if inhaled

H411 - Toxic to aquatic life with long lasting effects

H361f - Suspected of damaging fertility

Hazard statements

H332 - Harmful if inhaled

H351 - Suspected of causing cancer

H411 - Toxic to aquatic life with long lasting effects

H317 - May cause an allergic skin reaction

Version 1

Revision Date 03 Oct 2019

Revision Note No information available.



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Prepared by: Exalpha Biologicals, Inc
Phone Number: 978-425-1370 (U.S.A.)



Safety Data Sheet

Section 1: Product and Company Identification

Product Name: TdT Enzyme

Part Number: J0146

Kit Catalog Number: X2044K1, X2044K2

Kit Product Name: DNA Fragmentation Detection Kit

Recommended use: For research use only

Manufacturer:

Exalpha Biologicals, Inc
2 Shaker Road, Unit B101
Shirley, MA 01464
(978) 425-1370 (U.S.A.)

Emergency Telephone Numbers:

Contact National Poison Information Center

Section 2. Hazards Identification

GHS-Classification

Ozone	Not applicable
Skin sensitization	Category 1

GHS Label elements, including precautionary statements



Signal Word: Warning

Hazard statements

H317 - May cause an allergic skin reaction.

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

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.

P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention.

P363 - Wash contaminated clothing before reuse.

P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P272 - Contaminated work clothing should not be allowed out of the workplace.

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

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

Other information: No information available.

Section 3. Composition/Information on Ingredients

3.1 Substances



Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
Sodium hydroxide	1310-73-2	1-5	Skin Corr. 1A (H314)
2-Chloroacetamide	79-07-2	0.1-1	Acute Tox. 3 (H301) Skin Sens. 1 (H317) Repr. 2 (H361f)

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

Section 4. First Aid Measure

General advice: If symptoms persist, call a physician.

Eye contact: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.

Skin contact: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. May cause an allergic skin reaction. If symptoms persist, call a physician.

Inhalation: Move to fresh air.

Ingestion: Clean mouth with water. Drink plenty of water.

Notes to physician: Treat symptomatically. May cause sensitization of susceptible persons.

Section 5. Fire Fighting Measures

Flammable properties: Not flammable.

Flash point: not determined.

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Explosion Data

Sensitivity to Mechanical Impact: None.

Sensitivity to Static Discharge: None.

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

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.

Section 6. Accidental Release Measures

Personal precautions: Use personal protective equipment. Avoid contact with the skin and the eyes. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

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: Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. After cleaning, flush away traces with water. Prevent product from entering drains. Dam up.

Section 7. Handling & Storage

Advice on safe handling: Ensure adequate ventilation. Wear personal protective equipment. Use only in area provided with appropriate exhaust ventilation. Do not breathe vapors or spray mist.



Technical measures/Storage conditions: Keep container tightly closed. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers.

Section 8. Exposure Controls and Personal Protection

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

NIOSH IDLH: Immediately Dangerous to Life or Health

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium hydroxide 1310-73-2	Ceiling: 2 mg/m ³	TWA: 2 mg/m ³ (vacated) Ceiling: 2 mg/m ³	IDLH: 10 mg/m ³ Ceiling: 2 mg/m ³

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. Provide regular cleaning of equipment, work area and clothing.

Section 9. Physical and Chemical Properties

Appearance: No information available.

Odor Threshold: No information available.

pH: No information available.

Flash point: No information available.

Decomposition temperature: No information available.

Melting point/range: No information available.

Explosion limits: No information available.

Specific Gravity: No data available

Evaporation rate: No information available.

VOC Content (%): Not applicable.

Odor: No information available.

Physical State at 20°C: No information available.

Autoignition temperature: No information available.

Boiling point/boiling range: No information available.

Flammability Limits in Air: No information available.

Solubility: No information available.

Vapor density: No data available

Section 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.

Section 11. Toxicological Information

Acute toxicity:

Product Information: May cause sensitization of susceptible persons.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium hydroxide		1350 mg/kg (Rabbit)	

Chronic toxicity: Avoid repeated exposure. Repeated contact may cause allergic reactions in very susceptible persons.

Sensitization: As a precaution the product should be treated as a sensitizer.

Target Organ Effects: Eyes. Respiratory system. Skin.

Section 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 hydroxide		45.4: 96 h Oncorhynchus mykiss mg/L LC50 static		

Chemical Name	log Pow
2-Chloroacetamide	-0.53

Section 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
Sodium hydroxide	Toxic Corrosive

Section 14. Transport Information

DOT: Not dangerous goods

IATA: Not dangerous goods

ADR: Not dangerous goods

Section 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: no

Fire Hazard: no

Sudden Release of Pressure Hazard: no

Reactive Hazard: no

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

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium hydroxide	1000 lb			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 hydroxide	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 hydroxide	X	X	X		X

International Regulations

Chemical Name	Carcinogen Status	Exposure limits
Sodium hydroxide		Mexico: Ceiling 2 mg/m ³

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.

Section 16. Other information

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

H314 - Causes severe skin burns and eye damage

H301 - Toxic if swallowed

H317 - May cause an allergic skin reaction

H361f - Suspected of damaging fertility

Hazard statements

H317 - May cause an allergic skin reaction



Version 1

Revision Date 03 Oct 2019

Revision Note No information available.

Disclaimer:

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Prepared by: Exalpha Biologicals, Inc
Phone Number: 978-425-1370 (U.S.A.)



Safety Data Sheet

Section 1: Product and Company Identification

Product Name: Stop Buffer

Part Number: J0137

Kit Catalog Number: X2044K1, X2044K2

Kit Product Name: DNA Fragmentation Detection Kit

Recommended use: For research use only

Manufacturer:

Exalpha Biologicals, Inc

2 Shaker Road, Unit B101

Shirley, MA 01464

(978) 425-1370 (U.S.A.)

Emergency Telephone Numbers:

Contact National Poison Information Center

Section 2. Hazards Identification

GHS-Classification

Serious eye damage/eye irritation	Category 2
Ozone	Not applicable
Skin sensitization	Category 1

GHS Label elements, including precautionary statements



Signal Word: Warning

Hazard statements

H319 - Causes serious eye irritation.

H317 - May cause an allergic skin reaction.



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

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.

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

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

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.

P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention.

P363 - Wash contaminated clothing before reuse.

P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P272 - Contaminated work clothing should not be allowed out of the workplace.

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

Other information: No information available.

Section 3. Composition/Information on Ingredients

3.1 Substances

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

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
EDTA	60-00-4	10-30	Eye Irrit. 2 (H319) Aquatic Chronic 3 (H412)
2-Chloroacetamide	79-07-2	0.1-1	Acute Tox. 3 (H301) Skin Sens. 1 (H317) Repr. 2 (H361f)

Section 4. First Aid Measure

General advice: If symptoms persist, call a physician

Eye contact: 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.

Skin contact: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician. May cause an allergic skin reaction.

Inhalation: Move to fresh air. If symptoms persist, call a physician.

Ingestion: Rinse mouth. Drink plenty of water. If symptoms persist, call a physician.

Notes to physician: May cause sensitization of susceptible persons. Treat symptomatically.

Section 5. Fire Fighting Measures

Flammable properties: Not flammable.

Flash point: not determined

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Explosion Data

Sensitivity to Mechanical Impact: None.

Sensitivity to Static Discharge: None.



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

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.

Section 6. Accidental Release Measures

Personal precautions: Ensure adequate ventilation. Use personal protective equipment. Avoid contact with the skin and the eyes.

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: Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. After cleaning, flush away traces with water. Prevent product from entering drains.

Section 7. Handling & Storage

Advice on safe handling: Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation. Wear personal protective equipment.

Technical measures/Storage conditions: Keep out of the reach of children. Keep container tightly closed. Keep containers tightly closed in a cool, well-ventilated place.

Section 8. Exposure Controls and 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: Tightly fitting safety goggles.

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. When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use.

Section 9. Physical and Chemical Properties

Appearance : No information available.

Odor Threshold : No information available.

pH : No information available.

Flash point : No information available.

Decomposition temperature : No information available.

Melting point/range : No information available.

Explosion limits : No information available.

Specific Gravity: No data available



Evaporation rate : No information available.

Vapor density: No data available

Odor : No information available.

Physical State at 20°C : No information available.

Autoignition temperature : No information available.

Boiling point/boiling range : No information available.

Flammability Limits in Air : No information available.

solubility : No information available.

VOC Content (%): Not applicable

Section 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.

Section 11. Toxicological Information

Acute toxicity:

Product Information: Irritating to skin, eyes and / or respiratory tract. May cause sensitization of susceptible persons.

Inhalation: May cause irritation of respiratory tract

Eye contact: May cause irritation

Skin contact: May cause irritation

Ingestion: Ingestion may cause irritation to mucous membranes

Chronic toxicity: Repeated contact may cause allergic reactions in very susceptible persons Avoid repeated exposure.

Sensitization: As a precaution the product should be treated as a sensitizer.

Target Organ Effects: None known.

Section 12. Ecological Information

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

Chemical Name	log Pow
2-Chloroacetamide	-0.53

Section 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.



Section 14. Transport Information

DOT: Not dangerous goods

IATA: Not dangerous goods

ADR: Not dangerous goods

Section 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: no

Fire Hazard: no

Sudden Release of Pressure Hazard: no

Reactive Hazard: no

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

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
EDTA	5000 lb			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
EDTA	5000 lb		RQ 5000 lb final RQ RQ 2270 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
EDTA	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.

Section 16. Other information

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

H319 - Causes serious eye irritation

H412 - Harmful to aquatic life with long lasting effects

H301 - Toxic if swallowed



H317 - May cause an allergic skin reaction
H361f - Suspected of damaging fertility

Hazard statements

H319 - Causes serious eye irritation
H317 - May cause an allergic skin reaction

Version 1

Revision Date 03 Oct 2019

Revision Note No information available.

Disclaimer:

Exalpha Biologicals, Inc provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. Exalpha Biologicals, Inc. MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, Exalpha Biologicals, Inc. WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.

Prepared by: Exalpha Biologicals, Inc
Phone Number: 978-425-1370 (U.S.A.)



Safety Data Sheet

Section 1: Product and Company Identification

Product Name: Block Buffer

Part Number: J0138

Kit Catalog Number: X2044K1, X2044K2

Kit Product Name: DNA Fragmentation Detection Kit

Recommended use: For research use only

Manufacturer:
Exalpha Biologicals, Inc
2 Shaker Road, Unit B101
Shirley, MA 01464
(978) 425-1370 (U.S.A.)

Emergency Telephone Numbers:
Contact National Poison Information Center

Section 2. Hazards Identification

GHS-Classification

Skin sensitization	Category 1
Ozone	Not applicable

GHS Label elements, including precautionary statements



Signal Word: Warning

Hazard statements

H317 - May cause an allergic skin reaction.

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

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.

P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention.

P363 - Wash contaminated clothing before reuse.

P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P272 - Contaminated work clothing should not be allowed out of the workplace.

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

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

Other information: No information available.



Section 3. Composition/Information on Ingredients

3.1 Substances

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
2-Chloroacetamide	79-07-2	0.1-1	Acute Tox. 3 (H301) Skin Sens. 1 (H317) Repr. 2 (H361f)

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

Section 4. First Aid Measure

General advice: If symptoms persist, call a physician.

Eye contact: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.

Skin contact: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. May cause an allergic skin reaction. If symptoms persist, call a physician.

Inhalation: Move to fresh air.

Ingestion: Clean mouth with water. Drink plenty of water.

Notes to physician: May cause sensitization of susceptible persons. Treat symptomatically.

Section 5. Fire Fighting Measures

Flammable properties: Not flammable.

Flash point: not determined.

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Explosion Data

Sensitivity to Mechanical Impact: None.

Sensitivity to Static Discharge: None.

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

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.

Section 6. Accidental Release Measures

Personal precautions: Use personal protective equipment. Avoid contact with the skin and the eyes.

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: Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. After cleaning, flush away traces with water. Prevent product from entering drains.

Section 7. Handling & Storage

Advice on safe handling: Ensure adequate ventilation. Wear personal protective equipment.

Technical measures/Storage conditions: Keep out of the reach of children. Keep container tightly closed. Keep containers tightly closed in a cool, well-ventilated place.



Section 8. Exposure Controls and 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: Tightly fitting safety goggles.

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.

Section 9. Physical and Chemical Properties

Appearance : No information available.

Odor Threshold : No information available.

pH : No information available.

Flash point : No information available.

Decomposition temperature : No information available.

Melting point/range : No information available.

Explosion limits : No information available.

Specific Gravity: No data available

Evaporation rate : No information available.

Vapor density: No data available

Odor : No information available.

Physical State at 20°C : No information available.

Autoignition temperature : No information available.

Boiling point/boiling range : No information available.

Flammability Limits in Air : No information available.

solubility : No information available.

VOC Content (%): Not applicable

Section 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.

Section 11. Toxicological Information

Acute toxicity:

Product Information: May cause sensitization of susceptible persons.



Chronic toxicity: Repeated contact may cause allergic reactions in very susceptible persons Avoid repeated exposure

Sensitization: As a precaution the product should be treated as a sensitizer.

Target Organ Effects: None known.

Section 12. Ecological Information

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

Chemical Name	log Pow
2-Chloroacetamide	-0.53

Section 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.

Section 14. Transport Information

DOT: Not dangerous goods.

IATA: Not dangerous goods.

ADR: Not dangerous goods.

Section 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: no

Fire Hazard: no

Sudden Release of Pressure Hazard: no

Reactive Hazard: no

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

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

U.S. State Regulations

California Proposition 65: This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

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.



Section 16. Other information

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

- H301 - Toxic if swallowed
- H317 - May cause an allergic skin reaction
- H361f - Suspected of damaging fertility

Hazard statements

- H317 - May cause an allergic skin reaction

Version 1

Revision Date 03 Oct 2019

Revision Note No information available.

Disclaimer:

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Prepared by: Exalpha Biologicals, Inc
 Phone Number: 978-425-1370 (U.S.A.)



Safety Data Sheet

Section 1: Product and Company Identification

Product Name: DAB Concentrate

Part Number: J0027

Kit Catalog Number: X2044K1, X2044K2

Kit Product Name: DNA Fragmentation Detection Kit

Recommended use: For research use only

Manufacturer:
Exalpha Biologicals, Inc
2 Shaker Road, Unit B101
Shirley, MA 01464
(978) 425-1370 (U.S.A.)

Emergency Telephone Numbers:
Contact National Poison Information Center

Section 2. Hazards Identification

GHS-Classification

Ozone	Not applicable
-------	----------------

GHS Label elements, including precautionary statements: Not dangerous.

Other information: No information available.

Section 3. Composition/Information on Ingredients

3.1 Substances

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
DAB (3,3'-Diaminobenzidine tetrahydrochloride)	868272-85-9	3-7	Eye Irrit. 2 (H319) STOT SE 3 (H335) Skin Irrit. 2 (H315)

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

Section 4. First Aid Measure

Eye contact: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.

Skin contact: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Inhalation: Move to fresh air.

Ingestion: Clean mouth with water. Drink plenty of water.

Notes to physician: Treat symptomatically.



Section 5. Fire Fighting Measures

Flammable properties: Not flammable.

Flash point: not determined.

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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 to prevent contact with skin and eyes.

Section 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.

Section 7. Handling & 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.

Section 8. Exposure Controls and 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.

Section 9. Physical and Chemical Properties

Appearance : No information available.

Odor Threshold : No information available.

pH : No information available.

Flash point : No information available.

Decomposition temperature : No information available.

Melting point/range : No information available.

Explosion limits : No information available.



Specific Gravity: No data available

Evaporation rate : No information available.

Vapor density: No data available

Odor : No information available.

Physical State at 20°C : No information available.

Autoignition temperature : No information available.

Boiling point/boiling range : No information available.

Flammability Limits in Air : No information available.

solubility : No information available.

VOC Content (%): Not applicable

Section 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.

Section 11. Toxicological Information

Acute toxicity

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

Chronic toxicity

Target Organ Effects: None known.

Section 12. Ecological Information

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

Section 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.

Section 14. Transport Information

DOT: Not dangerous goods

IATA: Not dangerous goods

ADR: Not dangerous goods

Section 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: no

Chronic Health Hazard: no

Fire Hazard: no

Sudden Release of Pressure Hazard: no

Reactive Hazard: no

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

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

U.S. State Regulations

California Proposition 65: This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

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.

Section 16. Other information

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

H319 - Causes serious eye irritation

H335 - May cause respiratory irritation

H315 - Causes skin irritation

Version 1

Revision Date 03 Oct 2019

Revision Note No information available.

Disclaimer:

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Prepared by: Exalpa Biologicals, Inc
Phone Number: 978-425-1370 (U.S.A.)



Safety Data Sheet

Section 1: Product and Company Identification

Product Name: TdT Equilibration Buffer

Part Number: J0136

Kit Catalog Number: X2044K1, X2044K2

Kit Product Name: DNA Fragmentation Detection Kit

Recommended use: For research use only

Manufacturer:
Exalpha Biologicals, Inc
2 Shaker Road, Unit B101
Shirley, MA 01464
(978) 425-1370 (U.S.A.)

Emergency Telephone Numbers:
Contact National Poison Information Center

Section 2. Hazards Identification

GHS-Classification

Respiratory sensitization	Category 1
Skin sensitization	Category 1
Carcinogenicity	Category 2
Chronic aquatic toxicity	Category 2
Ozone	Not applicable

GHS Label elements, including precautionary statements



Signal Word: Danger, Warning.

Hazard statements

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 - May cause an allergic skin reaction.

H351 - Suspected of causing cancer.

H411 - Toxic to aquatic life with long lasting effects.

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

P304 + P341 - IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.

P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention.

P308 + P313 - IF exposed or concerned: Get medical advice/ attention.

P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P272 - Contaminated work clothing should not be allowed out of the workplace.



- P280 - Wear protective gloves/ eye protection/ face protection.
 - P363 - Wash contaminated clothing before reuse.
 - P501 - Dispose of contents/ container to an approved waste disposal plant.
 - P285 - In case of inadequate ventilation wear respiratory protection.
 - P201 - Obtain special instructions before use.
 - P202 - Do not handle until all safety precautions have been read and understood.
 - P281 - Use personal protective equipment as required.
 - P405 - Store locked up.
 - P273 - Avoid release to the environment.
 - P391 - Collect spillage.
 - P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
- Other information:** No information available.

Section 3. Composition/Information on Ingredients

3.1 Substances

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
Cacodylic acid sodium salt trihydrate	6131-99-3	1-5	Carc. 2 (H351) Acute Tox. 3 (H301) Acute Tox. 3 (H331) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Cobalt Chloride	7791-13-1	1-5	Resp. Sens. 1 (H334) Skin Sens. 1 (H317) Aquatic Chronic 4 (H413)
2-Chloroacetamide	79-07-2	0.1-1	Acute Tox. 3 (H301) Skin Sens. 1 (H317) Repr. 2 (H361f)

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

Section 4. First Aid Measure

General advice: If symptoms persist, call a physician.

Eye contact: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.

Skin contact: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. May cause an allergic skin reaction. If symptoms persist, call a physician.

Inhalation: Move to fresh air. Artificial respiration and/or oxygen may be necessary. If symptoms persist, call a physician.

Ingestion: Clean mouth with water. Drink plenty of water.

Notes to physician: May cause sensitization of susceptible persons. Treat symptomatically.

Section 5. Fire Fighting Measures

Flammable properties: Not flammable.

Flash point: not determined

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Explosion Data

Sensitivity to Mechanical Impact: None.



Sensitivity to Static Discharge: None.

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

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.

Section 6. Accidental Release Measures

Personal precautions: Use personal protective equipment. Keep people away from and upwind of spill/leak. Avoid contact with the skin and the eyes.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Try to prevent the material from entering drains or water courses.

Methods for containment: Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up: Cover liquid spill with sand, earth or other noncombustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Sweep up and shovel into suitable containers for disposal. Soak up with inert absorbent material. After cleaning, flush away traces with water. Prevent product from entering drains.

Section 7. Handling & Storage

Advice on safe handling: Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product. Wear personal protective equipment. Do not breathe vapors or spray mist. Ensure adequate ventilation.

Technical measures/Storage conditions: 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.

Section 8. Exposure Controls and 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
Hydrochloric acid 7647-01-0	Ceiling: 2 ppm	(vacated) Ceiling: 5 ppm (vacated) Ceiling: 7 mg/m ³ Ceiling: 5 ppm Ceiling: 7 mg/m ³	IDLH: 50 ppm Ceiling: 5 ppm Ceiling: 7 mg/m ³

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.

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. Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Keep away from food, drink and animal feeding stuffs.

Section 9. Physical and Chemical Properties

Appearance : No information available.

Odor Threshold : No information available.

pH : No information available.

Flash point : No information available.

Decomposition temperature : No information available.

Melting point/range : No information available.

Explosion limits : No information available.

Specific Gravity: No data available

Evaporation rate : No information available.

Vapor density: No data available

Odor : No information available.

Physical State at 20°C : No information available.

Autoignition temperature : No information available.

Boiling point/boiling range : No information available.

Flammability Limits in Air : No information available.

solubility : No information available.

Vapor Pressure at 20°C (kPa) : No information available.

VOC Content (%): Not applicable

Section 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.

Section 11. Toxicological Information

Acute toxicity

Product Information: May cause sensitization of susceptible persons.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Hydrochloric acid	700 mg/kg (Rat)	5010 mg/kg (Rabbit)	3124 ppm (Rat) 1 h

Chronic toxicity: Repeated contact may cause allergic reactions in very susceptible persons. 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).

IARC: (International Agency for Research on Cancer): Group 3 - Not Classifiable as to Carcinogenicity in Humans.



Sensitization: As a precaution the product should be treated as a sensitizer.

Mutagenic effects: Possible risks of irreversible effects.

Target Organ Effects None known.

Section 12. Ecological Information

Ecotoxicity: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Hydrochloric acid		282: 96 h Gambia affinis mg/L LC50 static		

Chemical Name	log Pow
2-Chloroacetamide	-0.53

Section 13. Disposal Considerations

Waste disposal methods: Dispose of in accordance with local regulations.

Contaminated packaging: Do not re-use empty containers.

Section 14. Transport Information

DOT: Not dangerous goods

IATA: Not dangerous goods

ADR: Not dangerous goods

Section 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.

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
Hydrochloric acid	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.

Section 16. Other information

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

H351 - Suspected of causing cancer

H301 - Toxic if swallowed

H331 - Toxic if inhaled

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

H335 - May cause respiratory irritation

H314 - Causes severe skin burns and eye damage

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

H317 - May cause an allergic skin reaction

H413 - May cause long lasting harmful effects to aquatic life

H411 - Toxic to aquatic life with long lasting effects

H361f - Suspected of damaging fertility

Hazard statements

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

H317 - May cause an allergic skin reaction

H351 - Suspected of causing cancer

H411 - Toxic to aquatic life with long lasting effects



Version 1

Revision Date 03 Oct 2019

Revision Note No information available.

Disclaimer:

Exalpha Biologicals, Inc provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. Exalpha Biologicals, Inc. **MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS.**

ACCORDINGLY, Exalpha Biologicals, Inc. WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.

Prepared by: Exalpha Biologicals, Inc
Phone Number: 978-425-1370 (U.S.A.)



Safety Data Sheet

Section 1: Product and Company Identification

Product Name: 25x Streptavidin-HRP Conjugate

Part Number: J0139

Kit Catalog Number: X2044K1, X2044K2

Kit Product Name: DNA Fragmentation Detection Kit

Recommended use: For research use only

Manufacturer:
Exalpha Biologicals, Inc
2 Shaker Road, Unit B101
Shirley, MA 01464
(978) 425-1370 (U.S.A.)

Emergency Telephone Numbers:
Contact National Poison Information Center

Section 2. Hazards Identification

GHS-Classification

Skin sensitization	Category 1
Ozone	Not applicable

GHS Label elements, including precautionary statements



Signal Word: Warning

Hazard statements

H317 - May cause an allergic skin reaction.

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

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.

P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention.

P363 - Wash contaminated clothing before reuse.

P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P272 - Contaminated work clothing should not be allowed out of the workplace.

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

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

Other information: No information available.



Section 3. Composition/Information on Ingredients

3.1 Substances

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
2-Chloroacetamide	79-07-2	0.1-1	Acute Tox. 3 (H301) Skin Sens. 1 (H317) Repr. 2 (H361f)

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

Section 4. First Aid Measure

General advice: If symptoms persist, call a physician.

Eye contact: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.

Skin contact: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. May cause an allergic skin reaction. If symptoms persist, call a physician.

Inhalation: Move to fresh air.

Ingestion: Clean mouth with water. Drink plenty of water.

Notes to physician: May cause sensitization of susceptible persons. Treat symptomatically.

Section 5. Fire Fighting Measures

Flammable properties: Not flammable.

Flash point: not determined

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Explosion Data

Sensitivity to Mechanical Impact: None.

Sensitivity to Static Discharge: None.

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

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.

Section 6. Accidental Release Measures

Personal precautions: Use personal protective equipment. Avoid contact with the skin and the eyes.

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: Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. After cleaning, flush away traces with water. Prevent product from entering drains.

Section 7. Handling & Storage

Advice on safe handling: Ensure adequate ventilation. Wear personal protective equipment.

Technical measures/Storage conditions: Keep out of the reach of children. Keep container tightly closed. Keep containers tightly closed in a cool, well-ventilated place.



Section 8. Exposure Controls and 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: Tightly fitting safety goggles.

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.

Section 9. Physical and Chemical Properties

Appearance : No information available.

Odor Threshold : No information available.

pH : No information available.

Flash point : No information available.

Decomposition temperature : No information available.

Melting point/range : No information available.

Explosion limits : No information available.

Specific Gravity: No data available

Evaporation rate : No information available.

Vapor density: No data available

Odor : No information available.

Physical State at 20°C : No information available.

Autoignition temperature : No information available.

Boiling point/boiling range : No information available.

Flammability Limits in Air : No information available.

solubility : No information available.

VOC Content (%): Not applicable

Section 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.

Section 11. Toxicological Information

Acute toxicity:

Product Information: May cause sensitization of susceptible persons.



Chronic toxicity: Repeated contact may cause allergic reactions in very susceptible persons Avoid repeated exposure

Sensitization: As a precaution the product should be treated as a sensitizer.

Target Organ Effects: None known.

Section 12. Ecological Information

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

Chemical Name	log Pow
2-Chloroacetamide	-0.53

Section 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.

Section 14. Transport Information

DOT: Not dangerous goods.

IATA: Not dangerous goods

ADR: Not dangerous goods

Section 15. Regulatory Information

U.S. Federal Regulations

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International Regulations

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Section 16. Other information

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

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H317 - May cause an allergic skin reaction

H361f - Suspected of damaging fertility

Hazard statements

H317 - May cause an allergic skin reaction

Version 1

Revision Date 03 Oct 2019

Revision Note No information available.

Disclaimer:

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