

SAFETY DATA SHEET (SDS)

1. Identification

Product identifier

Product name: duet evoC, Freezer Box

Other mean of identification

Product number: 6205-2 and 6206-2.

Recommended use of the chemical and restrictions on use

Laboratory chemicals, Synthesis of substances

Supplier address/information

biomodal
The Trinity Building
Chesterford Research Park
Cambridge, CB10 1XL, UK

Emergency telephone number

+44 01223 800700

This number is available only during business hours.

2. Hazards Identification

GHS Classification:

Flammable liquid and vapor (Category 3), H226

Serious eye damage (Category 1), H318

Serious eye irritation (Category 2), H319

Respiratory sensitization (Category 1), H334

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

GHS Label:**Signal Word:**

Danger

Hazard Statement(s):

H226

Flammable liquid and vapor.

H318

Causes serious eye damage.

H319

Causes serious eye irritation.

H334

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

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Precautionary Statement(s):

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P240	Ground and bond container an receiving equipment.
P242	Use only non-sparking tools.
P243	Take action to prevent static discharges
P261	Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P272	Contaminated work clothing must not be allowed out of the workplace.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P285	In case of inadequate ventilation wear respiratory protection.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P303 + P361 + P353:	IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304 + P341	IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P333 + P313	If skin irritation or rash occurs: Get medical advice/ attention.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.
P363	Wash contaminated clothing before reuse.
P370 + P378	In case of fire: Use CO ₂ , dry chemical, or foam to extinguish.
P403 + P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/ container to an approved waste disposal plant.

Other hazards: None.

3. Composition / Information on Ingredients

Component	CAS Number	EU EINECS/ ELINCS List	% by Weight
Control DNA	Not applicable	Not applicable	100
Hairpin Adapter	Not applicable	Not applicable	100
Forkhead Adapter	Not applicable	Not applicable	100
ER Enzymes v2	Not applicable	Not applicable	100
ER Buffer v2	Not applicable	Not applicable	100
Ligation Buffer	Not applicable	Not applicable	100
Ligation MM v2	Not applicable	Not applicable	100
HD Enzymes v2	Not applicable	Not applicable	100
HD Buffer v2	Not applicable	Not applicable	100
SC Enzyme 1	Not applicable	Not applicable	100
SC Enzyme 2	Not applicable	Not applicable	100
SC Buffer	Not applicable	Not applicable	100
dNTPs	Not applicable	Not applicable	100
DTT	3483-12-3	222-468-7	100
hmCP Enzyme	Not applicable	Not applicable	100
hmCP Additive	Not applicable	Not applicable	100
Ox Enzyme E	Not applicable	Not applicable	100
Ox Buffer	Not applicable	Not applicable	100
Ox Additive 1	Not applicable	Not applicable	100
Ox Additive 2	Not applicable	Not applicable	100
ATP	Not applicable	Not applicable	100
MgCl ₂	7786-30-3	232-094-6	100
DM Enzyme 1	Not applicable	Not applicable	100
DA Buffer	Not applicable	Not applicable	100
DA Enzyme 2	Not applicable	Not applicable	100
DA Cleanup	Not applicable	Not applicable	100
PCR MM	Not applicable	Not applicable	100
MT Additive 1	Not applicable	Not applicable	100
MT Additive 2	Not applicable	Not applicable	100
MT Buffer	Not applicable	Not applicable	100
MT Enzyme	Not applicable	Not applicable	100

(See Section 8 for Exposure Limits)

Molecular Weight: No data available.

CAS Number: Not applicable.

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4. First Aid Measures

4.1 Description of first aid measures

General: This kit is an aggregation of numerous products and therefore information regarding the potential toxic effects of this substance are limited or absent. Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. Show this data sheet to the doctor in attendance.

Eye:

Component	First Aid Measure
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	Flush immediately with large amounts of water for at least 15 minutes. Check for and remove contact lenses. Eyelids should be held away from the eyeball to ensure thorough rinsing. Consult a physician; preferably an ophthalmologist. Provide symptomatic/supportive care as necessary. Ensure that medical personnel are aware of the materials and take precautions to protect themselves.

Skin:

Component	First Aid Measure
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	Remove contaminated clothing and wash skin with soap and water for at least 15 minutes. If irritation persists, contact a physician. Wash clothing and shoes before reuse. Treat symptomatically and supportively. Ensure that medical personnel are aware of the materials and take precautions to protect themselves.

Inhalation:

Component	First Aid Measure
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	If overcome by mist or dust, move person to fresh air; if breathing difficulty or other effects occur, consult a physician. If not breathing, give cardiopulmonary resuscitation (CPR). Avoid mouth-to-mouth. Get immediate medical attention. Treat symptomatically and supportively. Ensure that medical personnel are aware of the materials and take precautions to protect themselves.

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Ingestion:

Component	First Aid Measure
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	If a person vomits place them in a recovery position so that vomit will not reenter the mouth and throat. Rinse mouth with water. Do not attempt to induce vomiting unless directed otherwise by medical personnel. Never give anything by mouth to an unconscious person.
Ox Additive 1, DA Buffer	If a person vomits place them in a recovery position so that vomit will not reenter the mouth and throat. Rinse mouth with water. Do not attempt to induce vomiting unless directed otherwise by medical personnel. Never give anything by mouth to an unconscious person. Do not attempt to neutralize.

4.2 Most important symptoms and effects, both acute and delayed

Component	Symptoms and Effects
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, Ox Additive 2, hmCP Additive, Ox Buffer, ATP, MgCl ₂ , DA Enzyme 2, DA Cleanup, MT Buffer, MT Enzyme	None reasonably foreseeable.
ER Enzymes v2, SC Enzyme 2, SC Enzyme 1, DTT, hmCP Enzyme, Ox Enzyme E, Ox Additive 1, DM Enzyme 1, DA Buffer, PCR MM, MT Additive 1, MT Additive 2,	The most important known symptoms and effects are described in the labeling (see Section 2 & Section 16) and/or in Section 11.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically. No further relevant information available.

5. Fire Fighting Measures

Suitable Extinguishing Media:

Substances are nonflammable

Fire Fighting Procedures:

Keep people away. Isolate fire and prevent unauthorized entry. Soak thoroughly with water to cool and prevent re-ignition. Use fine water spray or foam. Cool surroundings with water to localize fire zone. Handheld dry chemical or carbon dioxide extinguishers may be used for small fires.

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Special Protective Equipment for Firefighters:

Exposed firefighters must wear NIOSH-approved positive pressure self-contained breathing apparatus with full-face mask and full firefighting clothing (firefighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fire fight from a protected location or a safe distance.

Unusual Fire and Explosion Hazards:

If water is used to fight fire, contain runoff using dikes to prevent contamination of water supplies. Do not allow water runoff to enter nearby streams, ponds, or lakes.

Combustion Products:

During a fire, smoke which may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating, may be present. Combustion products may include and are not limited to: carbon monoxide and carbon dioxide.

6: Accidental Release Measures

Steps to be Taken if Material is Released or Spilled:

Wear a HEPA respirator, chemical safety goggles, rubber boots, protective clothes and gloves. Keep unnecessary people away; isolate hazard area and deny entry. All recovered material should be packaged, labeled, transported and disposed of or reclaimed in accordance with applicable laws and regulations and in conformance with good engineering practices. (Also see Section 8). Do not flush to sewer or waterways. Prevent release to the environment (soil, ditches, sewers, waterways, and/or groundwater) if possible. Wash all exposed skin areas with soap and water. Launder contaminated clothing before reuse. Refer to Section 7 for information on safe handling. Refer to Section 8 for information on personal protection equipment. Refer to Section 13 for disposal information. Refer to Section 15 for spill/release reporting information.

7. Handling and Storage

Handling

Avoid contact with material. Avoid prolonged or repeated exposure. Do not handle material near food, feed, or drinking water. Keep away from heat, sparks, open flame, or any other ignition source. Ensure adequate ventilation (i.e., fume hood). Avoid generation of vapors/aerosols. Ensure that the proper protective gloves and eye protection are worn when handling the material. After handling, always wash hands thoroughly with soap and water. Replace contaminated clothing and wash thoroughly before reusing. Follow safe chemical handling procedures for handling and storage.

Storage

Keep container dry. Store away from excessive heat, direct sunlight, and away from oxidizing agents. Keep container tightly closed. Store in a well-ventilated area. Store away from food, feed, and water. Store in a locked area accessible only to qualified or authorized persons. Store in cool, dry conditions in well-sealed receptacles at -20°C.

8. Exposure Controls / Personal Protection

Exposure Limits

Occupational exposure limit values have not been defined for this product.

Component	Cal/OSHA	OSHA	ACGIH	OEL
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	N/A	N/A	N/A	N/A

Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, duration of use, and the hazards and/or potential hazards that may be encountered during use. Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Promptly remove soiled clothing/wash thoroughly before reuse.

Engineering Controls

If process generates dust, fumes, or mist, use local exhaust ventilation or other engineering control to maintain airborne levels below exposure limits and to prevent accumulation of dust.

Personal Protective Equipment (PPE)

Eye Protection:

Based on an exposure risk assessment, appropriate eyewear should be worn to prevent mechanical injury or other irritation to eyes due to airborne particles or splashes which may result from handling this product. If there is a potential for exposure to particles/liquid which could cause eye discomfort, wear chemical goggles.

Skin Protection:

Wear clean body-covering clothing such as a lab coat when handling product.

Hand Protection:

Based on an exposure risk assessment, appropriate chemical (latex/nitrile) protective gloves should be worn when handling this material. Consistent with general hygienic practices for any material, skin contact should be minimized. Use gloves to protect from mechanical injury. Selection of gloves will depend on task.

Respiratory Protection:

Not required except in case of aerosol formation.

9. Physical and Chemical Properties

Physical state:

Component	Physical State
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, Ox Additive 1, MT Enzyme	Liquid
	Solid

Odor:

Component	Odor
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 2, MT Enzyme	None
MT Additive 1	Mild
DTT, MT Buffer	Unpleasant

Odor Threshold:

Component	Odor Threshold
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM	No data available

Appearance:

Component	Appearance
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer	Colorless liquid
Ox Additive 1	White powder
MT Enzyme	Lyophilised bead

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Flashpoint:

Component	Flashpoint
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 2, MT Buffer, MT Enzyme	No data available
MT Additive 1	49°C

Autoignition Temperature:

Component	Autoignition Temperature
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM	No data available
MT Additive 1	363°C
Ligation MM v2	371°C
ER Enzymes v2, Ligation Buffer, HD Enzymes v2s v2	392.8°C

Boiling Point:

Component	Boiling Point
Control DNA, Hairpin Adapter, Forkhead Adapter, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No data available
ER Enzymes v2, ER Buffer v2	ca. 212°F / 100°C

Specific Gravity:

Component	Specific Gravity
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, , MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No data available

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Melting Point:

Component	Melting Point
Control DNA, Hairpin Adapter, Forkhead Adapter, , Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No data available
ER Enzymes v2, ER Buffer v2	ca. 32°F / 0°C

Volatile:

Component	Volatile
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No data available

Vapor Pressure:

Component	Vapor Pressure
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No data available

Evaporation Rate (Water=1):

Component	Evaporation Rate
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No data available

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Vapor Density (Air=1):

Component	Vapor Density
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No data available

Solubility in Water:

Component	Solubility in Water
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer	No data available
Ox Additive 1, MT Enzyme	Soluble

Octanol/Water Partition Coefficient:

Component	Octanol/Water Partition Coefficient
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No data available

Molecular Formula:

Component	Molecular Formula
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, , MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No data available
DTT	C ₄ H ₁₀ O ₂ S ₂
MgCl ₂	MgCl ₂

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Molecular Weight:

Component	Molecular Weight
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, , MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No data available
DTT	154.25 g/mol
MgCl ₂	95.21 g/mol

pH:

Component	pH
Hairpin Adapter, Forkhead Adapter, dNTPs, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, ATP, MgCl ₂ , ER Enzymes v2 DM Enzyme 1, DA Enzyme 2, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No data available
Control DNA	7.0 – 8.0
Ligation MM v2, Ligation Buffer, HD Enzymes v2, HD Buffer v2, ER Buffer v2	7.5
SC Enzyme 1	7.6
SC Buffer	7.9
Ox Buffer	8.0
DA Buffer	6.1
DA Cleanup	9.0

Flammability:

Component	Flammability
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 2, MT Buffer, MT Enzyme	Nonflammable
MT Additive 1	No data available

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Explosion limits:

Component	Explosion Limits
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, , MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No data available

Decomposition Temperature:

Component	Decomposition Temperature
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No data available

Viscosity:

Component	Viscosity
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No data available

9.2 Other Safety Information

No further relevant information available.

10. Stability and Reactivity

This kit is an aggregation of numerous products in small quantities and are considered stable under normal conditions.

Stability:

Under normal conditions of storage and use this product is stable. Under fire conditions, may decompose and emit toxic vapors.

Reactivity:

Under normal conditions of storage and use hazardous reactions of this product will not occur.

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Incompatible materials:

Component	Incompatible Materials
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, SC Buffer, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No further relevant information available.
dNTPs, MgCl ₂ , Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2	Strong oxidizing agents.
DTT	Bases, Strong oxidizing agents, Reducing agents, Alkali metals

Hazardous decomposition products:

Component	Hazardous Decomposition Products
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, SC Buffer, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Enzyme	No dangerous decomposition products known.
dNTPs	Carbon oxides
MgCl ₂	Hydrogen chloride gas; Magnesium oxide
DTT	Carbon oxides; Sulfur oxides
Ligation Buffer, Ligation Master Mix, HD Buffer v2, HD Enzymes v2	Carbon Oxides
MT Buffer	Carbon oxides; Nitrogen oxides; Sulfur oxides; Hydrogen chloride gas; Hydrogen sulfide gas; Magnesium oxide

Chemical Reactivity:

None known.

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Hazardous Reactions:

Component	Hazardous Reactions
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, SC Buffer, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Enzyme	None known.
dNTPs, MgCl ₂ , MT Buffer	Violent reactions possible with the generally known reaction partners of water.
DTT, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2	Keep away from oxidizing agents.

Conditions to Avoid:

Component	Conditions to Avoid
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 2, MT Buffer	No information available.
MT Additive 1	Heat, flames, and sparks
Ox Additive 1. MT Enzymes	Exposure to moisture.

11. Toxicological Information

Acute Effects

Eye Contact:

Component	Acute Effects
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No data available
Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2	Redness. May cause slight irritation.

SAFETY DATA SHEET (SDS)

Skin Contact:

Component	Acute Effects
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer	No data available
Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2	Prolonged contact may cause redness and irritation. Repeated exposure may cause skin dryness or cracking.
MT Enzyme	ATEmix (dermal): 20,000.00mg/kg

Inhalation:

Component	Acute Effects
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 2, MT Buffer, MT Enzyme	No data available
Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2	Avoid breathing vapors or mists. May cause irritation of respiratory tract
MT Additive 1,	ATEmix (inhalation-dust / mist): 1,169.00 mg/kg

Ingestion:

Component	Acute Effects
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 2, MT Buffer	No data available
Ligation Buffer, Ligation MM v2, HD Buffer v2, HD Enzymes v2	May cause drowsiness or dizziness. Ingestion causes burns of the upper digestive and respiratory tracts. Symptoms include burning sensation, coughing, wheezing, shortness of breath, headache, nausea, and vomiting.
MT Additive 1	ATEmix (oral): 70,600.00 mg/kg
MT Enzyme	ATEmix (oral): 25,200.00 mg/kg

SAFETY DATA SHEET (SDS)

Carcinogenicity:

Component	Carcinogenicity
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No data available

- **IARC (International Agency for Research on Cancer)** Substances are not listed.
- **NTP (National Toxicology Program)** Substances are not listed.

Target Organ Effects:

Component	Target Organ Effects
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, , MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No data available
Ligation Buffer. Ligation MM v2, HD Buffer v2, HD Enzymes v2	Eyes, Kidneys, Respiratory system, Skin

Genetic Effects:

Component	Genetic Effects
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No data available

Reproductive Effects:

Component	Reproductive Effects
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No data available

SAFETY DATA SHEET (SDS)

Sensitization Effects:

Component	Sensitization Effects
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No data available

Developmental Effects:

Component	Developmental Effects
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No data available

Chronic Effects:

Component	Chronic Effects
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No data available

Repeated Dose Toxicity:

Component	Repeated Dose Toxicity
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No data available

SAFETY DATA SHEET (SDS)

Acute Toxicity Values:

Component	Acute Toxicity Values
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No data available

NOAEL:

Component	NOAEL
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No data available
MgCl ₂	Rat-Oral: >1000 mg/kg

HNSTD:

Component	HNSTD
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No data available

Other Toxicology Information

Specific testing has not been performed on this product. Hazard evaluation is based on information from similar products, raw material data, and technical literature. Exposure may cause irritation to the eyes, mucous membranes, upper respiratory tract, and skin. As this kit is an aggregation of numerous products, the chemical, physical and toxicological properties have not been thoroughly investigated. May be harmful by inhalation, ingestion, or skin absorption.

12. Ecological Information

12.1 Toxicity

EcoToxicity Information:

Component	Eco Toxicity Information
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No relevant information available

Biodegradability:

Component	Biodegradability
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No relevant information available

Stability in Water:

Component	Stability in Water
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No relevant information available

Bioaccumulation:

Component	Bioaccumulation
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No relevant information available

SAFETY DATA SHEET (SDS)

Microorganisms:

Component	Microorganisms
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No relevant information available

Algae:

Component	Algae
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No relevant information available
DTT	ErC50 (Raphidocelis subcapitata): 24.3 mg/l

Daphnia:

Component	Daphnia
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No relevant information available
DTT	EC50 (Daphnia magna): 34.8 mg/l

Fish:

Component	Microorganisms
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	No relevant information available

SAFETY DATA SHEET (SDS)

Toxicity

Component	Toxicity
Control DNA, Hairpin Adapter, Forkhead Adapter, ER Enzymes v2, ER Buffer v2, Ligation Buffer, Ligation MM v2, HD Enzymes v2, HD Buffer v2, SC Buffer, dNTPs, SC Enzyme 1, SC Enzyme 2, Ox Additive 1, Ox Additive 2, DTT, hmCP Enzyme, hmCP Additive, Ox Enzyme E, Ox Buffer, ATP, MgCl ₂ , DM Enzyme 1, DA Buffer, DA Enzyme 2, DA Cleanup, PCR MM, MT Additive 1, MT Additive 2, MT Buffer, MT Enzyme	PBT/vPvB assessment unavailable as chemical safety assessment not required or not conducted.

13. Disposal Considerations

Must not be disposed of together with household garbage. Do not dump into any sewers, on the ground, or into any body of water. Sweep up spilled material and place in suitable container for disposal. Use only licensed transporters and permitted facilities for waste disposal. Comply with Federal, State, or local regulations for disposal. Do not reuse containers. For additional guidance, we recommend that you contact your local Department of Health Services for information on the disposal of this product or arrange for disposal by an EPA licensed & permitted disposal company.

14. Transport Information

U.S. Department of Transportation (DOT):

These materials are not classified as hazardous for transport.

International Maritime Organization (IMDG):

These materials are not classified as hazardous for transport.

International Air Transport Authority (IATA):

These materials are not classified as hazardous for transport.

International Civil Aviation Organization (ICAO):

These materials are not classified as hazardous for transport.

International Carriage of Dangerous Goods by Road (ADR):

These materials are not classified as hazardous for transport.

International Carriage of Dangerous Goods by Rail (RID):

These materials are not classified as hazardous for transport.

Maritime Pollutant: Not listed as a Marine Pollutant.

Hazardous Substances Reportable Quantity: Not applicable.

***Consult Appropriate ICAO/IATA/DOT/IMDG/ADR/RID regulations for specific requirements based on shipping quantities.**

15. Regulatory Information

U.S. Federal Regulations

Hazard Communication Classification: See Section 2 & Section 16.

Comprehensive Environmental Response and Liability Act of 1980 (CERCLA):
No CERCLA listed chemicals.

Toxic Substances Control Act (TSCA): Not subject to TSCA reporting.

EPA Registry Number: N/A

Clean Water Act (CWA): This product does not contain components listed as Priority Pollutants under the Clean Water Act. (40 CFR 122.21 and 40 CFR 122.42)

Clean Air Act (CAA): This product does not contain components listed under the Clean Air Act.

Superfund Amendments and Reauthorization Act (SARA 302/304) Title III Information: This product does not contain components regulated under SARA section 302/304.

SARA Section 311/312 (40 CFR 370) Hazard Categories:

Acute toxicity (any route of exposure)
Respiratory or skin sensitization
Serious eye damage or irritation
Skin corrosion or irritation

SARA Section 313 (40 CFR 372)

This product does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

State Regulations

California: This product does not contain chemicals(s) known to the State of California to cause cancer, birth defects or reproductive harm.

Massachusetts Right to Know Components: No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right to Know Components: No components are subject to the Pennsylvania Right to Know Act.

New Jersey Right to Know Components: No components are subject to the New Jersey Right to Know Act.

International Inventories

SAFETY DATA SHEET (SDS)

Canadian Workplace Hazardous Materials Information System (WHMIS): Not controlled under WHMIS (Canada).

EU Classification: According to present data no classification and labeling is required according to Directives 67/548/EEC or 1999/45/EC.

16. Other Information

Kit Components:

Control DNA	CTRL-8RXN-KC / CTRL-24RXN-KC	
Hairpin Adapter	HA-8RXN-KC / HA-24RXN-KC	
Forkhead Adapter	FA-8RXN-KC / FA-24RXN-KC	
ER Enzymes v2	ERE-8RXN-KC / ERE-24RXN-KC	
ER Buffer v2	ERB-8RXN-KC / ERB-24RXN-KC	
Ligation Buffer	LA-8RXN-KC / LA-24RXN-KC	
Ligation MM v2	LMM-8RXN-KC / LMM-24RXN-KC	
HD Enzymes v2	HDE-8RXN-KC / HDE-24RXN-KC	
HD Buffer v2	HDB-8RXN-KC / HDB-24RXN-KC	
SC Buffer	SCB-8RXN-KC / SCB-24RXN-KC	
dNTPs	dNTP-8RXN-KC / dNTP-24RXN-KC	
SC Enzyme 1	SCE1-8RXN-KC / SCE1-24RXN-KC	
SC Enzyme 2	SCE2-8RXN-KC / SCE2-24RXN-KC	
Ox Additive 2	OxA2-8RXN-KC / OxA2-24RXN-KC	
DTT	DTT-8RXN-KC / DTT-24RXN-KC	Eye Irrit. 2A; H319
hmCP Enzyme	hmCPE-8RXN-KC / hmCPE-24RXN-KC	
hmCP Additive	hmCPA-8RXN-KC / hmCPA-24RXN-KC	
Ox Enzyme E	OxE-8RXN-KC / OxE-24RXN-KC	Resp. Sens. 1; H334
Ox Buffer	OxB-8RXN-KC / OxB-24RXN-KC	
Ox Additive 1	OxA1-8RXN-KC / OxA1-24RXN-KC	Eye Dam. 1; H318
ATP	ATP-8RXN-KC / ATP-24RXN-KC	
MgCl ₂	Mg-8RXN-KC / Mg-24RXN-KC	
DM Enzyme 1	DAE1-8RXN-KC / DAE1-24RXN-KC	Resp. Sens. 1; H334
DA Buffer	DAB-8RXN-KC / DAB-24RXN-KC	Eye Dam. 1; H318
DA Enzyme 2	DAE2-8RXN-KC / DAE2-24RXN-KC	
DA Cleanup	DAC-8RXN-KC / DAC-24RXN-KC	
PCR MM	PCR-8RXN-KC / PCR-24RXN-KC	Resp. Sens. 1; H334
MT Additive 1	MTA1-8RXN-KC / MTA1-24RXN-KC	Flam. Liq. & Vap. 3; H226
MT Additive 2	MTA2-8RXN-KC / MTA2-24RXN-KC	
MT Buffer	MTB-8RXN-KC / MTB-24RXN-KC	Eye Dam. 1; H318
MT Enzyme	MTE-8RXN-KC / MTE-24RXN-KC	

NOT FOR DRUG, HOUSEHOLD OR OTHER USES. This is a kit for use in research and development.

SAFETY DATA SHEET (SDS)

National Fire Protection Association (NFPA) Ratings: This information is intended solely for the use of individuals trained in the NFPA system.

Health: 2 Flammability: 1 Reactivity: 0

Disclaimer: No additional information available. While biomodal believes information contained herein is accurate, biomodal makes no warranty of any kind, express or implied, with respect to this information and expressly disclaims all liability for reliance thereon. This data is offered for your consideration, investigation, and verification. The above information, data, recommendations, and suggestions appearing in this safety data sheet (SDS) regarding our research compounds or products are based upon tests and data believed to be reliable as of the date of publication but does not purport to be all inclusive and shall be used only as a guide for experienced personnel. As this is a kit with an aggregation of numerous products with little safety information available, the products should be handled by qualified personnel wearing adequate protective equipment. biomodal shall not be held liable for any damage resulting from the handling or from contact with the above product. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, biomodal cannot guarantee that these are the only hazards that exist

Kit Components:

CONTROL DNA				
Product Identifier	Pictogram	Signal Word	Hazard Statement(s)	Supplemental Information
CTRL-8RXN-KC CTRL-24RXN-KC				Not a hazardous substance or mixture.
Precautionary Statement(s)				

HAIRPIN ADAPTER				
Product Identifier	Pictogram	Signal Word	Hazard Statement(s)	Supplemental Information
HA-8RXN-KC HA-24RXN-KC				Not a hazardous substance or mixture.
Precautionary Statement(s)				

SAFETY DATA SHEET (SDS)

FORKHEAD ADAPTER				
Product Identifier	Pictogram	Signal Word	Hazard Statement(s)	Supplemental Information
FA-8RXN-KC FA-24RXN-KC				Not a hazardous substance or mixture.
Precautionary Statement(s)				

ER ENZYMES V2				
Product Identifier	Pictogram	Signal Word	Hazard Statement(s)	Supplemental Information
ERE2-8RXN-KC ERE2-24RXN-KC				Not a hazardous substance or mixture.
Precautionary Statement(s)				

ER BUFFER V2				
Product Identifier	Pictogram	Signal Word	Hazard Statement(s)	Supplemental Information
ERB2-8RXN-KC ERB2-24RXN-KC				Not a hazardous substance or mixture.
Precautionary Statement(s)				

LIGATION BUFFER				
Product Identifier	Pictogram	Signal Word	Hazard Statement(s)	Supplemental Information
LB-8RXN-KC LB-24RXN-KC				Not a hazardous substance or mixture.
Precautionary Statement(s)				

LIGATION MASTERMIX				
Product Identifier	Pictogram	Signal Word	Hazard Statement(s)	Supplemental Information
LMM2-8RXN-KC LMM2-24RXN-KC				Not a hazardous substance or mixture.
Precautionary Statement(s)				

SAFETY DATA SHEET (SDS)

HD ENZYMES V2				
Product Identifier	Pictogram	Signal Word	Hazard Statement(s)	Supplemental Information
HDE2-8RXN-KC HDE2-24RXN-KC				Not a hazardous substance or mixture.
Precautionary Statement(s)				

HD BUFFER V2				
Product Identifier	Pictogram	Signal Word	Hazard Statement(s)	Supplemental Information
HDB2-8RXN-KC HDB2-24RXN-KC				Not a hazardous substance or mixture.
Precautionary Statement(s)				

SC BUFFER				
Product Identifier	Pictogram	Signal Word	Hazard Statement(s)	Supplemental Information
SCB-8RXN-KC SCB-24RXN-KC				Not a hazardous substance or mixture.
Precautionary Statement(s)				

dNTPs				
Product Identifier	Pictogram	Signal Word	Hazard Statement(s)	Supplemental Information
dNTP-8RXN-KC dNTP-24RXN-KC				Not a hazardous substance or mixture.
Precautionary Statement(s)				

SC ENZYME 1				
Product Identifier	Pictogram	Signal Word	Hazard Statement(s)	Supplemental Information
SCE1-8RXN-KC SCE1-24RXN-KC				Not a hazardous substance or mixture.
Precautionary Statement(s)				

SAFETY DATA SHEET (SDS)

SC ENZYME 2				
Product Identifier	Pictogram	Signal Word	Hazard Statement(s)	Supplemental Information
SCE2-8RXN-KC SCE2-24RXN-KC				Not a hazardous substance or mixture.
Precautionary Statement(s)				

DTT				
Product Identifier	Pictogram	Signal Word	Hazard Statement(s)	Supplemental Information
DTT-8RXN-KC DTT-24RXN-KC		Warning	Causes serious eye irritation.	
Precautionary Statement(s) Wash skin thoroughly after handling. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Wear eye protection/ face protection. If eye irritation persists: Get medical advice/ attention.				

hmCP ENZYME				
Product Identifier	Pictogram	Signal Word	Hazard Statement(s)	Supplemental Information
hmCPE -8RXN-KC hmCPE -24RXN-KC				Not a hazardous substance or mixture.
Precautionary Statement(s)				

hmCP ADDITIVE				
Product Identifier	Pictogram	Signal Word	Hazard Statement(s)	Supplemental Information
hmCPA -8RXN-KC hmCPA -24RXN-KC				Not a hazardous substance or mixture.
Precautionary Statement(s)				

SAFETY DATA SHEET (SDS)

OX ENZYME E				
Product Identifier	Pictogram	Signal Word	Hazard Statement(s)	Supplemental Information
OxEE -8RXN-KC OxEE -24RXN-KC		Danger	May cause allergy or asthma symptoms or breathing difficulties if inhaled.	
Precautionary Statement(s) Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray. IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. Dispose of contents/ container to an approved waste disposal plant. In case of inadequate ventilation wear respiratory protection. If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.				

OX BUFFER				
Product Identifier	Pictogram	Signal Word	Hazard Statement(s)	Supplemental Information
OxB-8RXN-KC OxB-24RXN-KC				Not a hazardous substance or mixture.
Precautionary Statement(s)				

OX ADDITIVE 1				
Product Identifier	Pictogram	Signal Word	Hazard Statement(s)	Supplemental Information
OxA1-EA		Danger	Causes serious eye damage.	
Precautionary Statement(s) Wear eye protection/ face protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor				

OX ADDITIVE 2				
Product Identifier	Pictogram	Signal Word	Hazard Statement(s)	Supplemental Information
OxA2-8RXN-KC OxA2-24RXN-KC				Not a hazardous substance or mixture.
Precautionary Statement(s)				

SAFETY DATA SHEET (SDS)

ATP				
Product Identifier	Pictogram	Signal Word	Hazard Statement(s)	Supplemental Information
ATP-8RXN-KC ATP-24RXN-KC				Not a hazardous substance or mixture.
Precautionary Statement(s)				

MgCl₂				
Product Identifier	Pictogram	Signal Word	Hazard Statement(s)	Supplemental Information
Mg-8RXN-KC Mg-24RXN-KC				Not a hazardous substance or mixture.
Precautionary Statement(s)				

DM ENZYME 1				
Product Identifier	Pictogram	Signal Word	Hazard Statement(s)	Supplemental Information
DME1-8RXN-KC DME1-24RXN-KC		Danger	May cause allergy or asthma symptoms or breathing difficulties if inhaled.	
Precautionary Statement(s) Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray. IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. Dispose of contents/ container to an approved waste disposal plant. In case of inadequate ventilation wear respiratory protection. If experiencing respiratory symptoms: Call a POISON CENTER/ doctor				

DA ENZYME 2				
Product Identifier	Pictogram	Signal Word	Hazard Statement(s)	Supplemental Information
DAE2-8RXN-KC DAE2-24RXN-KC				Not a hazardous substance or mixture.
Precautionary Statement(s)				

SAFETY DATA SHEET (SDS)

DA BUFFER				
Product Identifier	Pictogram	Signal Word	Hazard Statement(s)	Supplemental Information
DAB-8RXN-KC DAB-24RXN-KC		Danger	Causes serious eye damage.	
Precautionary Statement(s) Wear eye protection/ face protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.				
DA CLEANUP				
Product Identifier	Pictogram	Signal Word	Hazard Statement(s)	Supplemental Information
DAC-8RXN-KC DAC-24RXN-KC				Not a hazardous substance or mixture.
Precautionary Statement(s)				
PCR MM				
Product Identifier	Pictogram	Signal Word	Hazard Statement(s)	Supplemental Information
PCR-8RXN-KC PCR-24RXN-KC		Danger	May cause allergy or asthma symptoms or breathing difficulties if inhaled.	
Precautionary Statement(s) Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray. IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. Dispose of contents/ container to an approved waste disposal plant. In case of inadequate ventilation wear respiratory protection. If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.				

End of Safety Data Sheet