

# SAFETY DATA SHEET

Dual Endogenous Enzyme Block

## Section 1. Identification

**GHS product identifier** : Dual Endogenous Enzyme Block**Part no.** : S2003, SK110, SK310

### Relevant identified uses of the substance or mixture and uses advised against

**Identified uses** : ☒ Laboratory use  
Container type: vial  
S2003 // Manual staining // Dual Endogenous Enzyme Block // 1 x 15 mL  
S2003 // Dako Autostainer // Dual Endogenous Enzyme Block // 10x11 mL  
SK110 // EnVision DuoFLEX Dual Endogenous Enzyme Block // Dako EnVision DuoFLEX Doublestain System // 1x30 mL  
SK310 // ER/PR pharmDx Peroxidase-Blocking Reagent // ER/PR pharmDx Kit (Link) // 1x35 mL  
Reference number: SDS167

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## Section 2. Hazards identification

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

### Classification of the substance or mixture

H317 SKIN SENSITIZATION - Category 1

### GHS label elements

## Section 2. Hazards identification

### Hazard pictograms



### Signal word

: Warning

### Hazard statements

: H317 - May cause an allergic skin reaction.

### Precautionary statements

#### Prevention

: P280 - Wear protective gloves.  
P261 - Avoid breathing vapor.

#### Response

: P302 + P352 - IF ON SKIN: Wash with plenty of water.  
P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention.  
P362 + P364 - Take off contaminated clothing and wash it before reuse.

#### Storage

: Not applicable.

#### Disposal

: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

### Other hazards

#### Hazards not otherwise classified

: None known.

#### Hazards identified when used

: No known significant effects or critical hazards.

## Section 3. Composition/information on ingredients

### Substance/mixture

: Mixture

Ingredient name	Synonyms	%	Identifiers
5-Chloro-2-methyl-3(2H)-isothiazolone mixt. with 2-methyl-3(2H)-isothiazolone	-	≤0.1	CAS: 55965-84-9

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.**

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### Description of necessary first aid measures

#### Eye contact

: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

#### Inhalation

: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

#### Skin contact

: Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

## Section 4. First aid measures

- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : May cause an allergic skin reaction.  
**Ingestion** : No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

- Eye contact** : No specific data.  
**Inhalation** : No specific data.  
**Skin contact** : Adverse symptoms may include the following:  
 irritation  
 redness  
**Ingestion** : No specific data.

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.  
**Specific treatments** : No specific treatment.  
**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.  
**Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
 carbon dioxide  
 carbon monoxide  
 Hydrogen chloride (HCl).

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

## Section 5. Fire-fighting measures

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

**Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. The spilled material may be neutralized with sodium carbonate, sodium bicarbonate or sodium hydroxide. Dispose of via a licensed waste disposal contractor.

## Section 7. Handling and storage

### Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from alkalis. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities** : Specific storage conditions: Please consult the label. Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Separate from alkalis. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

### Control parameters

### Occupational exposure limits

Ingredient name	Exposure limits
5-Chloro-2-methyl-3(2H)-isothiazolone mixt. with 2-methyl-3(2H)-isothiazolone	None.

### Biological exposure indices

## Section 8. Exposure controls/personal protection

No exposure indices known.

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

- Physical state** : Liquid. [Clear.]
- Color** : Colorless.
- Odor** : Odorless.
- Odor threshold** : Not available.
- pH** : 2
- Melting point/freezing point** : Not available.
- Boiling point or initial boiling point and boiling range** : Not available.


## Section 9. Physical and chemical properties

**Flash point** : Not applicable.

**Evaporation rate** : Not available.

**Flammability** : Not applicable.

**Lower and upper explosion limit/flammability limit** : Not available.

Vapor pressure :	Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
		mm Hg	kPa	Method	mm Hg	kPa	Method
	 water	17.5	2.3	-	92.258	12.3	-

**Relative vapor density** : Not available.

**Relative density** : Not available.

**Density** : 1 g/cm<sup>3</sup> [20°C (68°F)]

<b>Solubility(ies)</b> :	<b>Media</b>	<b>Result</b>
	Water	Soluble

**Miscible with water** : Yes.

**Partition coefficient: n-octanol/water** : Not applicable.

**Auto-ignition temperature** : Not available.

**Decomposition temperature** : Not available.

**Viscosity** : Dynamic (room temperature): Not available.  
Kinematic (room temperature): Not available.  
Kinematic (40°C (104°F)): Not available.

### Particle characteristics

**Median particle size** : Not applicable.

## Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** : No specific data.

**Incompatible materials** : Attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air.  
Reactive or incompatible with the following materials:  
alkalis  
Reactive or incompatible with the following materials: metals and acids.  
Incompatible with alkali metals.

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

##### Product/ingredient name

##### Result

5-Chloro-2-methyl-3(2H)-isothiazolone  
mixt. with 2-methyl-3(2H)-isothiazolone

Rat - Oral - LD50

53 mg/kg

Rabbit - Dermal - LD50

87.12 mg/kg

**Conclusion/Summary** : Not available.  
**[Product]**

#### Skin corrosion/irritation

**Conclusion/Summary** : Not available.  
**[Product]**

#### Serious eye damage/eye irritation

**Conclusion/Summary** : Not available.  
**[Product]**

#### Respiratory corrosion/irritation

**Conclusion/Summary** : Not available.  
**[Product]**

#### Respiratory or skin sensitization

##### Skin

**Conclusion/Summary** : Not available.  
**[Product]**

##### Respiratory

**Conclusion/Summary** : Not available.  
**[Product]**

#### Germ cell mutagenicity

**Conclusion/Summary** : Not available.  
**[Product]**

#### Carcinogenicity

Not available.

**Conclusion/Summary** : Not available.  
**[Product]**

#### Reproductive toxicity

**Conclusion/Summary** : Not available.  
**[Product]**

#### Specific target organ toxicity (single exposure)

Not available.


#### Specific target organ toxicity (repeated exposure)

Not available.

## Section 11. Toxicological information

### Aspiration hazard

Not available.

**Information on the likely routes of exposure** :  Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

### Potential acute health effects

**Eye contact** : No known significant effects or critical hazards.  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : May cause an allergic skin reaction.  
**Ingestion** : No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : No specific data.  
**Inhalation** : No specific data.  
**Skin contact** : Adverse symptoms may include the following:  
 irritation  
 redness  
**Ingestion** : No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### **Short term exposure**

**Potential immediate effects** : Not available.  
**Potential delayed effects** : Not available.

#### **Long term exposure**

**Potential immediate effects** : Not available.  
**Potential delayed effects** : Not available.


### Potential chronic health effects

**Conclusion/Summary [Product]** : Not available.

**General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.  
**Carcinogenicity** : No known significant effects or critical hazards.  
**Mutagenicity** : No known significant effects or critical hazards.  
**Reproductive toxicity** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
 5-Chloro-2-methyl-3(2H)-isothiazolone mixt. with 2-methyl-3(2H)-isothiazolone	53	87.12	N/A	0.5	N/A



## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	
5-Chloro-2-methyl-3(2H)-isothiazolone mixt. with 2-methyl-3(2H)-isothiazolone	Acute - LC50 - Fresh water	0.19 mg/l [96 hours]
	Acute - LC50 - Fresh water	0.16 mg/l [48 hours]

**Conclusion/Summary [Product]** : Not available.

### Persistence and degradability

Product/ingredient name	Result	
5-Chloro-2-methyl-3(2H)-isothiazolone mixt. with 2-methyl-3(2H)-isothiazolone	OECD [Ready Biodegradability - CO <sub>2</sub> Evolution Test]	62% [28 days] - Readily Aerobic

**Conclusion/Summary [Product]** : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
5-Chloro-2-methyl-3(2H)-isothiazolone mixt. with 2-methyl-3(2H)-isothiazolone	-	-	Readily

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
5-Chloro-2-methyl-3(2H)-isothiazolone mixt. with 2-methyl-3(2H)-isothiazolone	0.326	-	Low

### Mobility in soil

**Soil/Water partition coefficient** : Not available.

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

**DOT / TDG / Mexico / IMDG / IATA** : Not regulated.

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to IMO instruments** : Not available.

## Section 15. Regulatory information

### Safety, health and environmental regulations/legislation specific for the substance or mixture

**U.S. Federal regulations** : **Clean Water Act (CWA) 311:** Acetic acid; Hydrochloric acid

### TSCA 12(b) - Chemical export notification

Not applicable.

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

### SARA 302/304

#### Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
Hydrogen peroxide	≥0.1 - ≤1	Yes.	1000	106.1	1000	106.1
Hydrochloric acid	≤0.1	Yes.	500	-	5000	-

**SARA 304 RQ** : 200080 lbs / 90836.3 kg [23996.4 gal / 90836.3 L]

### SARA 311/312

**Classification** : SKIN SENSITIZATION - Category 1

#### Composition/information on ingredients

Name	%	Classification
5-Chloro-2-methyl-3(2H)-isothiazolone mixt. with 2-methyl-3(2H)-isothiazolone	≤0.1	ACUTE TOXICITY (oral) - Category 3 ACUTE TOXICITY (dermal) - Category 2 ACUTE TOXICITY (inhalation) - Category 2 SKIN CORROSION - Category 1C SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1A HNOC - Corrosive to digestive tract

### State regulations

**Massachusetts** : None of the components are listed.

**New York** : None of the components are listed.

## Section 15. Regulatory information

- New Jersey** : The following components are listed: HYDROGEN PEROXIDE
- Pennsylvania** : None of the components are listed.
- California Prop. 65**

This product does not require a Safe Harbor warning under California Prop. 65.

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

- Australia** : Not determined.
- Canada** : Not determined.
- China** : Not determined.
- Japan** : **Japan inventory (CSCL)**: Not determined.  
**Japan inventory (ISHL)**: Not determined.
- New Zealand** : Not determined.
- Philippines** : Not determined.
- Republic of Korea** : Not determined.
- Taiwan** : Not determined.
- Thailand** : Not determined.
- Turkey** : Not determined.
- United States** : Not determined.
- Viet Nam** : Not determined.

## Section 16. Other information

### Procedure used to derive the classification

Classification	Justification
SKIN SENSITIZATION - Category 1	Calculation method

### History

- Date of issue/Date of revision** : 08/26/2025
- Date of previous issue** : 05/27/2022
- Version** : 5

## Section 16. Other information

### Key to abbreviations

: ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
DOT = Department of Transportation  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
IMO = International Maritime Organization  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973  
as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
N/A = Not available  
SGG = Segregation Group  
TDG = Transportation of Dangerous Goods  
UN = United Nations

Indicates information that has changed from previously issued version.

### Notice to reader

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