

Material Safety Data Sheet

Responsible company Biochemical Department,
Kikkoman Food Products Company
2-1-1, Nishi-shinbashi, Minato-ku,
Tokyo 105-0003, Japan

Information Phone: +81-3-5521-5490
Fax: +81-3-5521-5498
E-mail: biochem@mail.kikkoman.co.jp

1. Identification of the substance

Commercial product name

LuciPac Pen

Description

Reagent mixture, liquid and lyophilised powder

2. Information on ingredients

Hazards identified with this product are those associated with the following ingredients.

<i>Ingredients</i>	<i>Formula or chemical name</i>	<i>CAS #</i>	<i>Remarks</i>
Firefly luciferase		61970-00-1	Enzyme protein
Pyruvate, orthophosphate dikinase		9027-40-1	Enzyme protein
Phosphoenolpyruvate monopotassium	$C_3H_4KO_6P$	4265-07-0	
Pyrophosphate tetrapotassium	$K_4P_2O_7$	7320-34-5	
D-Luciferin	4,5-Dihydro-2-[6-hydroxy-2-benzo-thiazol yl]-4-thiazolecarboxylic acid	2591-17-5	
Magnesium acetate	$C_4H_6O_4Mg \cdot 4H_2O$	16674-78-5	
MES	2-[N-morpholino]ethanesulfonic acid	145224-94-8	
Dithiothreitol	$C_4H_{10}O_2S_2$	27565-41-9	
Treharose	$C_{12}H_{22}O_{11}$	6138-23-4	
Benzalkonium chloride	Alkyl dimethylbenzyl ammonium chloride	68391-01-5	

3. Hazards identification

Irritant

Irritating to eyes, respiratory system and skin.

WARNING:

Causes irritation.

Avoid contact with eyes, skin and clothing.

Avoid breathing vapour.

Wash thoroughly after handling.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Wear suitable protective clothing.

Enzyme powders are dusty substances. Inhalation of the enzyme dust resulting from handling may induce sensitisation and cause allergic reactions in sensitised individuals.

4. First aid measures

Skin contact Wash skin with plenty of water. If symptoms occur, see a doctor.

Eye contact Rinse eyes with plenty of water for at least 15 minutes and see an eye specialist. If symptoms occur, see a doctor.

Ingestion Rinse mouth and throat thoroughly with water. Drink water. If symptoms occur, see a doctor.

Inhalation Remove from exposure. If symptoms of irritation or sensitisation occur (shortness of breath, wheezing or laboured coughing), call a doctor.

Material Safety Data Sheet

5. Fire-fighting measures
- | | |
|--|--------------------------|
| Protection against fire and explosions | No special requirements. |
| Suitable fire extinguishing media | Water, foam. |
| Non-suitable media | None. |
| Special exposure hazards | None. |
6. Accidental release measures
- Spilled substance should be removed immediately. Avoid formation of dust. Take up by mechanical means, preferably by a vacuum equipped with a high efficiency filter. Flush carefully with plenty of water. Avoid splashing and high-pressure washing. Ensure sufficient ventilation. Wash contaminated clothing.
7. Handling and storage
- Safety shower and eye bath.
Mechanical exhaust required.
Wash thoroughly after handling.
Avoid formation of dust. Ensure good ventilation of the room when handling this substance.
Store at 2-8°C.
8. Exposure controls/personal protection
- | | |
|---|-----------------------------------|
| Recommended personal protective equipment (PPE) | |
| Respiratory protection | Respirator with filter. |
| Hand protection | Impermeable gloves. |
| Eye protection | Protective glasses or eye shield. |
9. Physical and chemical properties
- | | |
|------------|-------------------------------------|
| Appearance | White or almost white lyophilisate. |
| Odour | None. |
| Other data | None relevant for safety. |
10. Stability and reactivity
- This substance is stable under normal conditions of use.
- | | |
|----------------------------------|-------|
| Conditions to avoid | None. |
| Materials to avoid | None. |
| Hazardous decomposition products | None. |
11. Toxicological information
- Inhalation of enzyme dust may induce sensitisation and cause allergic reactions in sensitised individuals
12. Ecological information
- No data available.
13. Disposal considerations
- No special disposal method required, except that in accordance with local authority regulations.
14. Transport information
- | | | | |
|------------|-----------------|------|-----------------|
| UN number: | Not applicable. | Sea: | Not applicable. |
| Road/Rail: | Not applicable. | Air: | Not applicable. |
15. Regulatory information
- European information
CAUTION: Substance not yet fully tested.
Irritant
R 36/37/38
Irritating to eyes, respiratory system and skin.
S 26
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 36/37/39

Material Safety Data Sheet

Wear suitable protective clothing, gloves and eye/face protection

16. Other information

The information contained in this Material Safety Data Sheet, as of the issue date, is believed to be true and correct. However, this information is only intended as a guide, and any recommendations or suggestions are made without warranty or guarantee.

Since the conditions of use are beyond the control of our Company, it is the responsibility of the user to determine the conditions of safe use of this substance. The information in this sheet does not represent analytical specifications, for which please refer to our product specification.