

Qualification Reagent Kit

KIT4034

Date of compilation: 2024-08-14

Bill of materials

| Name of substance | Classification acc. to GHS | Pictograms | Page |
|-------------------------------|----------------------------|------------|---------|
| Innovate ATP Positive Control | | | 2 - 15 |
| Innovate Sensilux | | | 16 - 29 |
| Innovate Dilutor DS | | | 30 - 43 |

Innovate ATP Positive Control

Version number: 2.0
Replaces version of: 2022-12-09 (1)

Revision: 2024-07-02

SECTION 1: Identification**1.1 Product identifier**

Trade name **Innovate ATP Positive Control**
Product code(s) KIT4014, ASY4055

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

Relevant identified uses Laboratory and analytical use

1.3 Details of the supplier of the safety data sheet

Hygiena USA
941 Avenida Acaso
Camarillo California 93012
United States

Telephone: +1 (805) 388-8007
Telefax: +1 (805) 388-5531
e-mail: info@hygiena.com

e-mail (competent person) info@hygiena.com

1.4 Emergency telephone number

Emergency information service 1-888-494-4362
This number is only available during the following
office hours: Mon-Fri 08:00 AM - 05:00 PM

SECTION 2: Hazard(s) identification**2.1 Classification of the substance or mixture**

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)
This mixture does not meet the criteria for classification.

2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)
not required

2.3 Other hazards

Results of PBT and vPvB assessment
Does not contain a PBT-/vPvB-substance at a concentration of $\geq 0.1\%$.
Endocrine disrupting properties
Does not contain an endocrine disruptor (ED) in a concentration of $\geq 0.1\%$.

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SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture)

3.2 Mixtures

Description of the mixture

| Name of substance | Identifier | Wt% | Classification acc. to GHS | Pictograms |
|---|----------------------|----------------|--|---|
| Pyrogen Free Water | CAS No 7732-18-5 | ≥ 90 | | |
| Tris | CAS No 77-86-1 | 0.1 – < 1 | | |
| Acetic acid | CAS No 64-19-7 | 0.0001 – < 0.1 | Skin Corr. 1A / H314 Eye Dam. 1 / H318 Flam. Liq. 3 / H226 |  |
| Adenosine 5'-triphosphate disodium salt hydrate | CAS No 34369-07-8 | < 0.0001 | | |

Remarks

For full text of abbreviations: see SECTION 16

SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

none

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SECTION 5: Fire-fighting measures**5.1 Extinguishing media**

Suitable extinguishing media

Water spray, BC-powder, Carbon dioxide (CO₂)

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

Nitrogen oxides (NO_x), Carbon monoxide (CO), Carbon dioxide (CO₂)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Coordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingsuffs.

7.2 Conditions for safe storage, including any incompatibilities

Control of the effects

Protect against external exposure, such as

frost

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)

| Country | Name of agent | CAS No | Identifier | TWA [ppm] | TWA [mg/m ³] | STEL [ppm] | STEL [mg/m ³] | Ceiling-C [ppm] | Ceiling-C [mg/m ³] | Notation | Source |
|---------|---------------|---------|------------|-----------|--------------------------|------------|---------------------------|-----------------|--------------------------------|----------|------------------|
| US | acetic acid | 64-19-7 | PEL (CA) | 10 | 25 | 15 | 37 | 40 | | | Cal/OSHA PEL |
| US | acetic acid | 64-19-7 | REL | 10 (10 h) | 25 (10 h) | 15 | 37 | | | | NIOSH REL |
| US | acetic acid | 64-19-7 | TLV® | 10 | | 15 | | | | | ACGIH® 2024 |
| US | acetic acid | 64-19-7 | PEL | 10 | 25 | | | | | | 29 CFR 1910.1000 |

Notation

Ceiling-C
STEL

ceiling value is a limit value above which exposure should not occur
short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA

time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

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| Relevant DNELs of components | | | | | | |
|------------------------------|---------|----------|-------------------------|------------------------------------|-------------------|----------------------------|
| Name of substance | CAS No | Endpoint | Threshold level | Protection goal, route of exposure | Used in | Exposure time |
| Tris | 77-86-1 | DNEL | 117.5 mg/m ³ | human, inhalatory | worker (industry) | chronic - systemic effects |
| Tris | 77-86-1 | DNEL | 166.7 mg/kg bw/day | human, dermal | worker (industry) | chronic - systemic effects |

| Relevant PNECs of components | | | | | | |
|------------------------------|---------|----------|-----------------|-------------------|------------------------------|------------------------------|
| Name of substance | CAS No | Endpoint | Threshold level | Organism | Environmental compartment | Exposure time |
| Tris | 77-86-1 | PNEC | 300 mg/l | aquatic organisms | sewage treatment plant (STP) | short-term (single instance) |

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

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| | |
|----------------|-----------------------|
| Physical state | liquid |
| Color | not determined |
| Particle | not relevant (liquid) |
| Odor | characteristic |

Other safety parameters

| | |
|---|---|
| pH (value) | not determined |
| Melting point/freezing point | not determined |
| Initial boiling point and boiling range | not determined |
| Flash point | not determined |
| Evaporation rate | Not determined |
| Flammability (solid, gas) | not relevant, (fluid) |
| Vapor pressure | not determined |
| Density | not determined |
| Vapor density | this information is not available |
| Relative density | Information on this property is not available |
| Solubility(ies) | not determined |

Partition coefficient

| | |
|-----------------------------|-----------------------------------|
| - n-octanol/water (log KOW) | this information is not available |
| Auto-ignition temperature | not determined |
| Viscosity | not determined |
| Explosive properties | none |
| Oxidizing properties | none |

9.2 Other information

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| | |
|----------------|---------|
| Liquid content | 99.39 % |
| Solid content | 0.61 % |

SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

Oxidizers

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

This mixture does not meet the criteria for classification.

Acute toxicity

Shall not be classified as acutely toxic.

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitization

Shall not be classified as a respiratory or skin sensitizer.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

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Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance at a concentration of $\geq 0.1\%$.

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) in a concentration of $\geq 0.1\%$.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packages

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

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SECTION 14: Transport information

- 14.1 UN number** not subject to transport regulations
- 14.2 UN proper shipping name** not relevant
- 14.3 Transport hazard class(es)** none
- 14.4 Packing group** not assigned
- 14.5 Environmental hazards** non-environmentally hazardous acc. to the dangerous goods regulations
- 14.6 Special precautions for user**
There is no additional information.
- 14.7 Transport in bulk according to IMO instruments**
The cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

Transport of dangerous goods by road or rail (49 CFR US DOT) - Additional information

Not subject to transport regulations.

International Maritime Dangerous Goods Code (IMDG) - Additional information

Not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Not subject to ICAO-IATA.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

National regulations (United States)

Toxic Substance Control Act (TSCA) not all ingredients are listed (ACTIVE)

Superfund Amendment and Reauthorization Act (SARA TITLE III)

- The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

none of the ingredients are listed

- Specific Toxic Chemical Listings (EPCRA Section 313)

none of the ingredients are listed

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

- List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

| Name of substance | CAS No | Remarks | Statutory code | Final RQ pounds (Kg) |
|-------------------|---------|---------|----------------|----------------------|
| Acetic acid | 64-19-7 | | 1 | 5000 (2270) |

Legend

1 "1" indicates that the statutory source is section 311(b)(2) of the Clean Water Act

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Clean Air Act

none of the ingredients are listed

Right to Know Hazardous Substance List

- Hazardous Substance List (NJ-RTK)

| Name of substance | CAS No | Remarks | Classifications |
|-------------------|---------|---------|-----------------|
| Acetic acid | 64-19-7 | | CO F2 |

Legend

CO Corrosive
F2 Flammable - Second Degree

California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

none of the ingredients are listed

Industry or sector specific available guidance(s)

NPCA-HMIS® III

Hazardous Materials Identification System. American Coatings Association.

| Category | Rating | Description |
|---------------------|--------|--|
| Chronic | / | none |
| Health | 0 | no significant risk to health |
| Flammability | 1 | material that must be preheated before ignition can occur |
| Physical hazard | 0 | material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive |
| Personal protection | - | |

NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

| Category | Degree of hazard | Description |
|----------------|------------------|---|
| Flammability | 1 | material that must be preheated before ignition can occur |
| Health | 0 | material that, under emergency conditions, would offer no hazard beyond that of ordinary combustible material |
| Instability | 0 | material that is normally stable, even under fire conditions |
| Special hazard | | |

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National inventories

| Country | Inventory | Status |
|---------|------------|--------------------------------|
| AU | AIIC | not all ingredients are listed |
| CA | DSL | not all ingredients are listed |
| CN | IECSC | not all ingredients are listed |
| EU | ECSI | not all ingredients are listed |
| EU | REACH Reg. | not all ingredients are listed |
| JP | CSCL-ENCS | not all ingredients are listed |
| KR | KECI | not all ingredients are listed |
| MX | INSQ | not all ingredients are listed |
| NZ | NZIoC | not all ingredients are listed |
| PH | PICCS | not all ingredients are listed |
| TR | CICR | not all ingredients are listed |
| TW | TCSI | all ingredients are listed |
| US | TSCA | not all ingredients are listed |

Legend

| | |
|------------|---|
| AIIC | Australian Inventory of Industrial Chemicals |
| CICR | Chemical Inventory and Control Regulation |
| CSCL-ENCS | List of Existing and New Chemical Substances (CSCL-ENCS) |
| DSL | Domestic Substances List (DSL) |
| ECSI | EC Substance Inventory (EINECS, ELINCS, NLP) |
| IECSC | Inventory of Existing Chemical Substances Produced or Imported in China |
| INSQ | National Inventory of Chemical Substances |
| KECI | Korea Existing Chemicals Inventory |
| NZIoC | New Zealand Inventory of Chemicals |
| PICCS | Philippine Inventory of Chemicals and Chemical Substances (PICCS) |
| REACH Reg. | REACH registered substances |
| TCSI | Taiwan Chemical Substance Inventory |
| TSCA | Toxic Substance Control Act |

15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information, including date of preparation or last revision

Indication of changes (revised safety data sheet)

| Section | Former entry (text/value) | Actual entry (text/value) | Safety-relevant |
|---------|---|--|-----------------|
| 1.1 | Trade name: Hygiena ATP Positive Control | Trade name: Innovate ATP Positive Control | yes |
| 1.1 | Product code(s): SLN0148 | Product code(s): KIT4014, ASY4055 | yes |
| 2.3 | Other hazards: of no significance | Other hazards | yes |

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| Section | Former entry (text/value) | Actual entry (text/value) | Safety-relevant |
|---------|---|---|-----------------|
| 2.3 | | Results of PBT and vPvB assessment: Does not contain a PBT-/vPvB-substance at a concentration of $\geq 0.1\%$. | yes |
| 2.3 | | Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) in a concentration of $\geq 0.1\%$. | yes |
| 3.2 | | Description of the mixture: change in the listing (table) | yes |
| 3.2 | | Remarks: For full text of abbreviations: see SECTION 16 | yes |
| 8.1 | | Occupational exposure limit values (Workplace Exposure Limits): change in the listing (table) | yes |
| 12.5 | Results of PBT and vPvB assessment: Data are not available. | Results of PBT and vPvB assessment: According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance at a concentration of $\geq 0.1\%$. | yes |
| 12.6 | Endocrine disrupting properties: None of the ingredients are listed. | Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) in a concentration of $\geq 0.1\%$. | yes |
| 14.3 | Transport hazard class(es): not assigned | Transport hazard class(es): none | yes |
| 15.1 | | Toxic Substance Control Act (TSCA): not all ingredients are listed (ACTIVE) | yes |

Abbreviations and acronyms

| Abbr. | Descriptions of used abbreviations |
|------------------|--|
| 29 CFR 1910.1000 | 29 CFR 1910.1000, Tables Z-1, Z-2, Z-3 - Occupational Safety and Health Standards: Toxic and Hazardous Substances (permissible exposure limits) |
| 49 CFR US DOT | 49 CFR U.S. Department of Transportation |
| ACGIH® 2024 | From ACGIH®, 2024 TLVs® and BEIs® Book. Copyright 2024. Reprinted with permission. Information on the proper use of the TLVs® and BEIs®: http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement |
| Cal/OSHA PEL | California Division of Occupational Safety and Health (Cal/OSHA): Permissible Exposure Limits (PELs) |
| CAS | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances) |
| Ceiling-C | Ceiling value |
| DGR | Dangerous Goods Regulations (see IATA/DGR) |
| DNEL | Derived No-Effect Level |
| ED | Endocrine disruptor |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINCS | European List of Notified Chemical Substances |

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| Abbr. | Descriptions of used abbreviations |
|----------------|---|
| Eye Dam. | Seriously damaging to the eye |
| Eye Irrit. | Irritant to the eye |
| Flam. Liq. | Flammable liquid |
| GHS | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations |
| IATA | International Air Transport Association |
| IATA/DGR | Dangerous Goods Regulations (DGR) for the air transport (IATA) |
| ICAO | International Civil Aviation Organization |
| IMDG | International Maritime Dangerous Goods Code |
| NIOSH REL | National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs) |
| NLP | No-Longer Polymer |
| NPCA-HMIS® III | National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition |
| OSHA | Occupational Safety and Health Administration (United States) |
| PBT | Persistent, Bioaccumulative and Toxic |
| PEL | Permissible exposure limit |
| PNEC | Predicted No-Effect Concentration |
| ppm | Parts per million |
| RTECS | Registry of Toxic Effects of Chemical Substances (database of NIOSH with toxicological information) |
| Skin Corr. | Corrosive to skin |
| Skin Irrit. | Irritant to skin |
| STEL | Short-term exposure limit |
| TLV® | Threshold Limit Values |
| TWA | Time-weighted average |
| vPvB | Very Persistent and very Bioaccumulative |

Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties: The classification is based on tested mixture.

Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

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List of relevant phrases (code and full text as stated in section 2 and 3)

| Code | Text |
|------|--|
| H226 | Flammable liquid and vapor. |
| H314 | Causes severe skin burns and eye damage. |
| H318 | Causes serious eye damage. |

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

Innovate Sensilux

Version number: 2.0
Replaces version of: 2023-09-26 (1)

Revision: 2024-08-12

SECTION 1: Identification**1.1 Product identifier**

Trade name

Innovate Sensilux

Product code(s)

ASY4003/ASY4009/ASY4058/ASY4064 Innovate Sensilux, KIT4000/KIT4001 Rapiscreen Dairy Kit, KIT4015 RapiScreen Dairy (25000) for Autosampler-Bar-Coded, KIT4016 RapiScreen Dairy (25000) for NUTRICIA Bar-Coded, KIT4022/KIT4023 Sensilux Bulk Kit, KIT4034 Qualification Reagent Kit

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

Relevant identified uses

Laboratory and analytical use

1.3 Details of the supplier of the safety data sheet

Hygiena USA
941 Avenida Acaso
Camarillo California 93012
United States

Telephone: +1 (805) 388-8007

Telefax: +1 (805) 388-5531

e-mail: info@hygiena.com

e-mail (competent person)

info@hygiena.com

1.4 Emergency telephone number

Emergency information service

1-888-494-4362

This number is only available during the following office hours: Mon-Fri 08:00 AM - 05:00 PM

SECTION 2: Hazard(s) identification**2.1 Classification of the substance or mixture**

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

This mixture does not meet the criteria for classification.

2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

not required

2.3 Other hazards

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of $\geq 0.1\%$.

Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) in a concentration of $\geq 0.1\%$.

SECTION 3: Composition/information on ingredients**3.1 Substances**

Not relevant (mixture)



Innovate Sensilux

Version number: 2.0
Replaces version of: 2023-09-26 (1)

Revision: 2024-08-12

3.2 Mixtures

Description of the mixture

| Name of substance | Identifier | Wt% | Classification acc. to GHS | Pictograms |
|-------------------------|-----------------------------------|----------------|--|---|
| Trehalose Dihydrate | CAS No 6138-23-4 99-20-7 | 5 - < 10 | | |
| Bovine Serum Albumin | CAS No 9048-46-8 | 1 - < 3 | | |
| Luciferase | CAS No 61970-00-1 9014-00-0 | 0.1 - < 1 | STOT RE 2 / H373 |  |
| Luciferin | CAS No 2591-17-5 | 0.1 - < 1 | | |
| EDTA disodium dihydrate | CAS No 6381-92-6 | 0.0001 - < 0.1 | | |
| Tris | CAS No 77-86-1 | 0.0001 - < 0.1 | | |
| Hydrochloric Acid | CAS No 7647-01-0 | 0.0001 - < 0.1 | Acute Tox. 3 / H331 Skin Corr. 1A / H314 Press. Gas C / H280 |  |

Remarks

For full text of abbreviations: see SECTION 16

SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

none

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SECTION 5: Fire-fighting measures**5.1 Extinguishing media**

Suitable extinguishing media

Water spray, BC-powder, Carbon dioxide (CO₂)

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

Nitrogen oxides (NO_x), Carbon monoxide (CO), Carbon dioxide (CO₂)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Coordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas.

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Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

There is no additional information.

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials" (Section 10).

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

| Occupational exposure limit values (Workplace Exposure Limits) | | | | | | | | | | | |
|--|---|-----------|------------|-----------|--------------------------|------------|---------------------------|-----------------|--------------------------------|----------|------------------|
| Country | Name of agent | CAS No | Identifier | TWA [ppm] | TWA [mg/m ³] | STEL [ppm] | STEL [mg/m ³] | Ceiling-C [ppm] | Ceiling-C [mg/m ³] | Notation | Source |
| US | hydrogen chloride | 7647-01-0 | REL | | | | | 5 | 7 | | NIOSH REL |
| US | hydrogen chloride | 7647-01-0 | TLV® | | | | | 2 | | | ACGIH® 2024 |
| US | hydrogen chloride | 7647-01-0 | PEL | | | | | 5 | 7 | | 29 CFR 1910.1000 |
| US | hydrogen chloride (muriatic acid) (hydrochloric acid) | 7647-01-0 | PEL (CA) | 0.3 | 0.45 | | | 2 | | | Cal/OSHA PEL |

Notation

Ceiling-C ceiling value is a limit value above which exposure should not occur

STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

| Relevant DNELs of components | | | | | | |
|------------------------------|-----------|----------|-------------------------|------------------------------------|-------------------|----------------------------|
| Name of substance | CAS No | Endpoint | Threshold level | Protection goal, route of exposure | Used in | Exposure time |
| Tris | 77-86-1 | DNEL | 117.5 mg/m ³ | human, inhalatory | worker (industry) | chronic - systemic effects |
| Tris | 77-86-1 | DNEL | 166.7 mg/kg bw/day | human, dermal | worker (industry) | chronic - systemic effects |
| EDTA disodium dihydrate | 6381-92-6 | DNEL | 1.5 mg/m ³ | human, inhalatory | worker (industry) | chronic - systemic effects |
| EDTA disodium dihydrate | 6381-92-6 | DNEL | 3 mg/m ³ | human, inhalatory | worker (industry) | acute - systemic effects |
| EDTA disodium dihydrate | 6381-92-6 | DNEL | 1.5 mg/m ³ | human, inhalatory | worker (industry) | chronic - local effects |
| EDTA disodium dihydrate | 6381-92-6 | DNEL | 3 mg/m ³ | human, inhalatory | worker (industry) | acute - local effects |

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| Relevant DNELs of components | | | | | | |
|------------------------------|-----------|----------|----------------------|------------------------------------|-------------------|-------------------------|
| Name of substance | CAS No | Endpoint | Threshold level | Protection goal, route of exposure | Used in | Exposure time |
| hydrate | | | | | | |
| Hydrochloric Acid | 7647-01-0 | DNEL | 8 mg/m ³ | human, inhalatory | worker (industry) | chronic - local effects |
| Hydrochloric Acid | 7647-01-0 | DNEL | 15 mg/m ³ | human, inhalatory | worker (industry) | acute - local effects |

| Relevant PNECs of components | | | | | | |
|------------------------------|-----------|----------|-----------------|-----------------------|------------------------------|------------------------------|
| Name of substance | CAS No | Endpoint | Threshold level | Organism | Environmental compartment | Exposure time |
| Tris | 77-86-1 | PNEC | 300 mg/l | aquatic organisms | sewage treatment plant (STP) | short-term (single instance) |
| EDTA disodium dihydrate | 6381-92-6 | PNEC | 2.5 mg/l | aquatic organisms | freshwater | short-term (single instance) |
| EDTA disodium dihydrate | 6381-92-6 | PNEC | 0.25 mg/l | aquatic organisms | marine water | short-term (single instance) |
| EDTA disodium dihydrate | 6381-92-6 | PNEC | 50 mg/l | aquatic organisms | sewage treatment plant (STP) | short-term (single instance) |
| EDTA disodium dihydrate | 6381-92-6 | PNEC | 1.1 mg/kg | terrestrial organisms | soil | short-term (single instance) |

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

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SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties****Appearance**

| | |
|----------------|-----------------------|
| Physical state | liquid |
| Color | not determined |
| Particle | not relevant (liquid) |
| Odor | characteristic |

Other safety parameters

| | |
|---|---|
| pH (value) | not determined |
| Melting point/freezing point | not determined |
| Initial boiling point and boiling range | not determined |
| Flash point | not determined |
| Evaporation rate | Not determined |
| Flammability (solid, gas) | not relevant, (fluid) |
| Vapor pressure | <0.001 Pa at 25 °C |
| Density | not determined |
| Vapor density | this information is not available |
| Relative density | Information on this property is not available |
| Solubility(ies) | not determined |

Partition coefficient

| | |
|-----------------------------|-----------------------------------|
| - n-octanol/water (log KOW) | this information is not available |
| Auto-ignition temperature | not determined |
| Viscosity | not determined |
| Explosive properties | none |
| Oxidizing properties | none |

9.2 Other information

| | |
|----------------|---------|
| Liquid content | 2.905 % |
| Solid content | 5.82 % |

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SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

Oxidizers

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

This mixture does not meet the criteria for classification.

Acute toxicity

Shall not be classified as acutely toxic.

Acute toxicity estimate (ATE) of components

| Name of substance | CAS No | Exposure route | ATE |
|-------------------|-----------|-----------------|---------------------------|
| Hydrochloric Acid | 7647-01-0 | inhalation: gas | >700 ppm ^V /4h |

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitization

Shall not be classified as a respiratory or skin sensitizer.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

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IARC Monographs on the Evaluation of Carcinogenic Risks to Humans

| Name of substance | CAS No | Classification | Number |
|-------------------|-----------|----------------|--------|
| Hydrochloric Acid | 7647-01-0 | 3 | |

Legend

3 Not classifiable as to carcinogenicity in humans

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information**12.1 Toxicity**

Shall not be classified as hazardous to the aquatic environment.

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance at a concentration of $\geq 0.1\%$.

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) in a concentration of $\geq 0.1\%$.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations**13.1 Waste treatment methods**

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packages

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

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SECTION 14: Transport information

- | | |
|--|---|
| 14.1 UN number | not subject to transport regulations |
| 14.2 UN proper shipping name | not relevant |
| 14.3 Transport hazard class(es) | none |
| 14.4 Packing group | not assigned |
| 14.5 Environmental hazards | non-environmentally hazardous acc. to the dangerous goods regulations |
| 14.6 Special precautions for user | There is no additional information. |
| 14.7 Transport in bulk according to IMO instruments | The cargo is not intended to be carried in bulk. |

Information for each of the UN Model Regulations

Transport of dangerous goods by road or rail (49 CFR US DOT) - Additional information

Not subject to transport regulations.

International Maritime Dangerous Goods Code (IMDG) - Additional information

Not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Not subject to ICAO-IATA.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

National regulations (United States)

Toxic Substance Control Act (TSCA)

not all ingredients are listed (ACTIVE)

Superfund Amendment and Reauthorization Act (SARA TITLE III)

- The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

The List of Extremely Hazardous Substances and Their Threshold Planning Quantities

| Name of substance | CAS No | Notes | Reportable quantity (pounds) | Threshold planning quantity (pounds) |
|-------------------|-----------|-------|------------------------------|--------------------------------------|
| Hydrochloric Acid | 7647-01-0 | f | 5,000 | 500 |

Legend

f Chemical on the original list that does not meet toxicity criteria but because of its acute lethality, high production volume and known risk is considered chemical of concern ("Other chemicals"). (November 17, 1986, and February 15, 1990.)

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- Specific Toxic Chemical Listings (EPCRA Section 313)

| Toxics Release Inventory: Specific Toxic Chemical Listings | | | |
|--|-----------|--|----------------|
| Name of substance | CAS No | Remarks | Effective date |
| Hydrochloric Acid | 7647-01-0 | acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size | 1986-12-31 |

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

- List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

| Name of substance | CAS No | Remarks | Statutory code | Final RQ pounds (Kg) |
|-------------------|-----------|---------|----------------|----------------------|
| Hydrochloric Acid | 7647-01-0 | | 1 3 | 5000 (2270) |

Legend

- 1 "1" indicates that the statutory source is section 311(b)(2) of the Clean Water Act
3 "3" indicates that the source is section 112 of the Clean Air Act

Clean Air Act

| Name of substance | CAS No | Type of registration | Basis for listing | Threshold quantity (lbs) |
|-------------------|-----------|----------------------|-------------------|--------------------------|
| Hydrochloric Acid | 7647-01-0 | Toxic substance | a | 5000 |
| Hydrochloric Acid | 7647-01-0 | Toxic substance | d | 15000 |

Legend

- a Mandated for listing by Congress.
d Toxicity of hydrogen chloride, potential to release hydrogen chloride, and history of accidents.

Right to Know Hazardous Substance List

- Hazardous Substance List (NJ-RTK)

| Name of substance | CAS No | Remarks | Classifications |
|-------------------|-----------|---------|-----------------|
| Hydrochloric Acid | 7647-01-0 | | CO R1 |

Legend

- CO Corrosive
R1 Reactive - First Degree

California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

none of the ingredients are listed

Industry or sector specific available guidance(s)

NPCA-HMIS® III

Hazardous Materials Identification System. American Coatings Association.

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| Category | Rating | Description |
|---------------------|--------|--|
| Chronic | / | none |
| Health | 0 | no significant risk to health |
| Flammability | 1 | material that must be preheated before ignition can occur |
| Physical hazard | 0 | material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive |
| Personal protection | - | |

NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

| Category | Degree of hazard | Description |
|----------------|------------------|---|
| Flammability | 1 | material that must be preheated before ignition can occur |
| Health | 0 | material that, under emergency conditions, would offer no hazard beyond that of ordinary combustible material |
| Instability | 0 | material that is normally stable, even under fire conditions |
| Special hazard | | |

National inventories

| Country | Inventory | Status |
|---------|------------|--------------------------------|
| AU | AIIC | all ingredients are listed |
| CA | DSL | not all ingredients are listed |
| CN | IECSC | all ingredients are listed |
| EU | ECSI | all ingredients are listed |
| EU | REACH Reg. | not all ingredients are listed |
| JP | CSCL-ENCS | not all ingredients are listed |
| JP | ISHA-ENCS | not all ingredients are listed |
| KR | KECI | not all ingredients are listed |
| MX | INSQ | not all ingredients are listed |
| NZ | NZIoC | not all ingredients are listed |
| PH | PICCS | not all ingredients are listed |
| TR | CICR | not all ingredients are listed |
| TW | TCSI | all ingredients are listed |
| US | TSCA | not all ingredients are listed |

Legend

| | |
|-----------|--|
| AIIC | Australian Inventory of Industrial Chemicals |
| CICR | Chemical Inventory and Control Regulation |
| CSCL-ENCS | List of Existing and New Chemical Substances (CSCL-ENCS) |
| DSL | Domestic Substances List (DSL) |
| ECSI | EC Substance Inventory (EINECS, ELINCS, NLP) |

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Legend

| | |
|------------|---|
| IECSC | Inventory of Existing Chemical Substances Produced or Imported in China |
| INSQ | National Inventory of Chemical Substances |
| ISHA-ENCS | Inventory of Existing and New Chemical Substances (ISHA-ENCS) |
| KECI | Korea Existing Chemicals Inventory |
| NZIoC | New Zealand Inventory of Chemicals |
| PICCS | Philippine Inventory of Chemicals and Chemical Substances (PICCS) |
| REACH Reg. | REACH registered substances |
| TCSI | Taiwan Chemical Substance Inventory |
| TSCA | Toxic Substance Control Act |

15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information, including date of preparation or last revision

Indication of changes (revised safety data sheet)

| Section | Former entry (text/value) | Actual entry (text/value) | Safety-relevant |
|---------|---|--|-----------------|
| 1.1 | Trade name: Hygiena Sensilux | Trade name: Innovate Sensilux | yes |
| 1.1 | | Product code(s): ASY4003/ASY4009/ASY4058/ASY4064 Innovate Sensilux, KIT4000/KIT4001 Rapiscreen Dairy Kit, KIT4015 RapiScreen Dairy (25000) for Autosampler-Bar-Coded, KIT4016 RapiScreen Dairy (25000) for NUTRICIA Bar-Coded, KIT4022/KIT4023 Sensilux Bulk Kit, KIT4034 Qualification Reagent Kit | yes |
| 2.3 | Results of PBT and vPvB assessment: Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0.1\%$. | Results of PBT and vPvB assessment: Does not contain a PBT-/vPvB-substance at a concentration of $\geq 0.1\%$. | yes |
| 2.3 | Endocrine disrupting properties: Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0.1\%$. | Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) in a concentration of $\geq 0.1\%$. | yes |
| 3.2 | | Description of the mixture: change in the listing (table) | yes |
| 3.2 | | Remarks: For full text of abbreviations: see SECTION 16 | yes |
| 7.2 | Conditions for safe storage, including any incompatibilities | Conditions for safe storage, including any incompatibilities: There is no additional information. Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials" (Section 10). | yes |
| 8.1 | | Occupational exposure limit values (Workplace Exposure Limits): change in the listing (table) | yes |
| 11.1 | | Acute toxicity estimate (ATE) of components: change in the listing (table) | yes |
| 12.5 | Results of PBT and vPvB assessment: According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0.1\%$. | Results of PBT and vPvB assessment: According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance at a concentration of $\geq 0.1\%$. | yes |
| 12.6 | Endocrine disrupting properties: | Endocrine disrupting properties: | yes |

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| Section | Former entry (text/value) | Actual entry (text/value) | Safety-relevant |
|---------|--|---|-----------------|
| | Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0.1\%$. | Does not contain an endocrine disruptor (ED) in a concentration of $\geq 0.1\%$. | |
| 15.1 | | National inventories: change in the listing (table) | yes |

Abbreviations and acronyms

| Abbr. | Descriptions of used abbreviations |
|------------------|--|
| 29 CFR 1910.1000 | 29 CFR 1910.1000, Tables Z-1, Z-2, Z-3 - Occupational Safety and Health Standards: Toxic and Hazardous Substances (permissible exposure limits) |
| 49 CFR US DOT | 49 CFR U.S. Department of Transportation |
| ACGIH® 2024 | From ACGIH®, 2024 TLVs® and BEIs® Book. Copyright 2024. Reprinted with permission. Information on the proper use of the TLVs® and BEIs®: http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement |
| Acute Tox. | Acute toxicity |
| ATE | Acute Toxicity Estimate |
| Cal/OSHA PEL | California Division of Occupational Safety and Health (Cal/OSHA): Permissible Exposure Limits (PELs) |
| CAS | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances) |
| Ceiling-C | Ceiling value |
| DGR | Dangerous Goods Regulations (see IATA/DGR) |
| DNEL | Derived No-Effect Level |
| ED | Endocrine disruptor |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINCS | European List of Notified Chemical Substances |
| GHS | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations |
| IARC | International Agency for Research on Cancer |
| IATA | International Air Transport Association |
| IATA/DGR | Dangerous Goods Regulations (DGR) for the air transport (IATA) |
| ICAO | International Civil Aviation Organization |
| IMDG | International Maritime Dangerous Goods Code |
| NIOSH REL | National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs) |
| NLP | No-Longer Polymer |
| NPCA-HMIS® III | National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition |
| OSHA | Occupational Safety and Health Administration (United States) |
| PBT | Persistent, Bioaccumulative and Toxic |
| PEL | Permissible exposure limit |
| PNEC | Predicted No-Effect Concentration |
| ppm | Parts per million |
| Press. Gas | Gas under pressure |

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| Abbr. | Descriptions of used abbreviations |
|-------------|---|
| RTECS | Registry of Toxic Effects of Chemical Substances (database of NIOSH with toxicological information) |
| Skin Corr. | Corrosive to skin |
| Skin Irrit. | Irritant to skin |
| STEL | Short-term exposure limit |
| STOT RE | Specific target organ toxicity - repeated exposure |
| TLV® | Threshold Limit Values |
| TWA | Time-weighted average |
| vPvB | Very Persistent and very Bioaccumulative |

Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties: The classification is based on tested mixture.

Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

| Code | Text |
|------|--|
| H280 | Contains gas under pressure; may explode if heated. |
| H314 | Causes severe skin burns and eye damage. |
| H331 | Toxic if inhaled. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

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SECTION 1: Identification**1.1 Product identifier**

Trade name

Innovate Dilutor DS

Product code(s)

ASY4004/ASY4007/ASY4010/ASY4059/ASY4065 Innovate Dilutor DS, KIT4000/KIT4001 Rapiscreen Dairy Kit, KIT4015 RapiScreen Dairy (25000) for Autosampler-Bar-Coded, KIT4016 RapiScreen Dairy (25000) for NUTRICIA Bar-Coded, KIT4034 Qualification Reagent Kit

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

Relevant identified uses

Laboratory and analytical use

1.3 Details of the supplier of the safety data sheetHygiena USA
941 Avenida Acaso
Camarillo California 93012
United States

Telephone: +1 (805) 388-8007

Telefax: +1 (805) 388-5531

e-mail: info@hygiena.com

e-mail (competent person)

info@hygiena.com

1.4 Emergency telephone number

Emergency information service

1-888-494-4362

This number is only available during the following office hours: Mon-Fri 08:00 AM - 05:00 PM

SECTION 2: Hazard(s) identification**2.1 Classification of the substance or mixture**

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

This mixture does not meet the criteria for classification.

2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

not required

2.3 Other hazards

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of $\geq 0.1\%$.

Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) in a concentration of $\geq 0.1\%$.**SECTION 3: Composition/information on ingredients****3.1 Substances**

Not relevant (mixture)



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3.2 Mixtures

Description of the mixture

| Name of substance | Identifier | Wt% | Classification acc. to GHS | Pictograms |
|--------------------------------|----------------------|----------------|--|---|
| Pyrogen Free Water | CAS No 7732-18-5 | ≥ 90 | | |
| Tricine | CAS No 5704-04-1 | 0.1 – < 1 | | |
| Magnesium Acetate Tetrahydrate | CAS No 16674-78-5 | 0.1 – < 1 | | |
| Tris | CAS No 77-86-1 | 0.1 – < 1 | | |
| EDTA tetrasodium salt hydrate | CAS No 13235-36-4 | 0.0001 – < 0.1 | | |
| EDTA K2 | CAS No 25102-12-9 | 0.0001 – < 0.1 | Acute Tox. 4 / H332 |  |
| sodium azide | CAS No 26628-22-8 | 0.0001 – < 0.1 | Acute Tox. 2 / H300 Acute Tox. 1 / H310 |  |

Remarks

For full text of abbreviations: see SECTION 16

SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

none

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SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray, BC-powder, Carbon dioxide (CO₂)

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

Nitrogen oxides (NO_x), Carbon monoxide (CO), Carbon dioxide (CO₂)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Coordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas.

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Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Control of the effects

Protect against external exposure, such as frost

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

| Occupational exposure limit values (Workplace Exposure Limits) | | | | | | | | | | | |
|--|---------------|------------|------------|-----------|--------------------------|------------|---------------------------|-----------------|--------------------------------|----------|--------------|
| Country | Name of agent | CAS No | Identifier | TWA [ppm] | TWA [mg/m ³] | STEL [ppm] | STEL [mg/m ³] | Ceiling-C [ppm] | Ceiling-C [mg/m ³] | Notation | Source |
| US | sodium azide | 26628-22-8 | TLV® | | | | | | 0.29 | | ACGIH® 2024 |
| US | sodium azide | 26628-22-8 | PEL (CA) | | | | | 0.1 | 0.3 | H | Cal/OSHA PEL |
| US | sodium azide | 26628-22-8 | REL | | | | | | 0.3 | H | NIOSH REL |
| US | sodium azide | 26628-22-8 | REL | | | | | 0.1 | | H, HN3 | NIOSH REL |
| US | sodium azide | 26628-22-8 | TLV® | | | | | 0.11 | | vap, HN3 | ACGIH® 2024 |

Notation

| | |
|-----------|--|
| Ceiling-C | ceiling value is a limit value above which exposure should not occur |
| H | absorbed through the skin |
| HN3 | calculated as HN3 (hydrazoic acid) |
| STEL | short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified) |
| TWA | time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified) |
| vap | as vapors |

| Relevant DNELs of components | | | | | | |
|------------------------------|------------|----------|-------------------------|------------------------------------|-------------------|----------------------------|
| Name of substance | CAS No | Endpoint | Threshold level | Protection goal, route of exposure | Used in | Exposure time |
| Tris | 77-86-1 | DNEL | 117.5 mg/m ³ | human, inhalatory | worker (industry) | chronic - systemic effects |
| Tris | 77-86-1 | DNEL | 166.7 mg/kg bw/day | human, dermal | worker (industry) | chronic - systemic effects |
| sodium azide | 26628-22-8 | DNEL | 0.164 mg/m ³ | human, inhalatory | worker (industry) | chronic - systemic effects |

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| Relevant DNELs of components | | | | | | |
|------------------------------|------------|----------|-----------------|------------------------------------|-------------------|----------------------------|
| Name of substance | CAS No | Endpoint | Threshold level | Protection goal, route of exposure | Used in | Exposure time |
| sodium azide | 26628-22-8 | DNEL | 46.7 µg/kg | human, dermal | worker (industry) | chronic - systemic effects |

| Relevant PNECs of components | | | | | | |
|------------------------------|------------|----------|-----------------|-------------------|------------------------------|------------------------------|
| Name of substance | CAS No | Endpoint | Threshold level | Organism | Environmental compartment | Exposure time |
| Tris | 77-86-1 | PNEC | 300 mg/l | aquatic organisms | sewage treatment plant (STP) | short-term (single instance) |
| sodium azide | 26628-22-8 | PNEC | 0.35 µg/l | aquatic organisms | freshwater | short-term (single instance) |
| sodium azide | 26628-22-8 | PNEC | 30 µg/l | aquatic organisms | sewage treatment plant (STP) | short-term (single instance) |
| sodium azide | 26628-22-8 | PNEC | 16.7 µg/kg | aquatic organisms | freshwater sediment | short-term (single instance) |
| sodium azide | 26628-22-8 | PNEC | 0.72 µg/kg | aquatic organisms | marine sediment | short-term (single instance) |

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

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SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties****Appearance**

| | |
|----------------|-----------------------|
| Physical state | liquid |
| Color | not determined |
| Particle | not relevant (liquid) |
| Odor | characteristic |

Other safety parameters

| | |
|---|---|
| pH (value) | not determined |
| Melting point/freezing point | not determined |
| Initial boiling point and boiling range | not determined |
| Flash point | not determined |
| Evaporation rate | Not determined |
| Flammability (solid, gas) | not relevant, (fluid) |
| Vapor pressure | not determined |
| Density | not determined |
| Vapor density | this information is not available |
| Relative density | Information on this property is not available |
| Solubility(ies) | not determined |

Partition coefficient

| | |
|-----------------------------|-----------------------------------|
| - n-octanol/water (log KOW) | this information is not available |
| Auto-ignition temperature | not determined |
| Viscosity | not determined |
| Explosive properties | none |
| Oxidizing properties | none |

9.2 Other information

| | |
|----------------|---------|
| Liquid content | 98.87 % |
| Solid content | 1.129 % |

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SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

Oxidizers

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

This mixture does not meet the criteria for classification.

Acute toxicity

Shall not be classified as acutely toxic.

| Acute toxicity estimate (ATE) of components | | | |
|---|------------|-----------------------|----------------|
| Name of substance | CAS No | Exposure route | ATE |
| EDTA K2 | 25102-12-9 | inhalation: vapor | 11 mg/l/4h |
| sodium azide | 26628-22-8 | oral | >5 mg/kg |
| sodium azide | 26628-22-8 | dermal | 5 mg/kg |
| sodium azide | 26628-22-8 | inhalation: dust/mist | >0.054 mg/l/4h |

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitization

Shall not be classified as a respiratory or skin sensitizer.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

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Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance at a concentration of $\geq 0.1\%$.

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) in a concentration of $\geq 0.1\%$.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packages

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

| | | |
|------|----------------------------|--------------------------------------|
| 14.1 | UN number | not subject to transport regulations |
| 14.2 | UN proper shipping name | not relevant |
| 14.3 | Transport hazard class(es) | none |

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- 14.4 Packing group** not assigned
- 14.5 Environmental hazards** non-environmentally hazardous acc. to the dangerous goods regulations
- 14.6 Special precautions for user**
There is no additional information.
- 14.7 Transport in bulk according to IMO instruments**
The cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations**Transport of dangerous goods by road or rail (49 CFR US DOT) - Additional information**

Not subject to transport regulations.

International Maritime Dangerous Goods Code (IMDG) - Additional information

Not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Not subject to ICAO-IATA.

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations specific for the product in question****National regulations (United States)****Toxic Substance Control Act (TSCA)** not all ingredients are listed (ACTIVE)**Superfund Amendment and Reauthorization Act (SARA TITLE III)**

- The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

The List of Extremely Hazardous Substances and Their Threshold Planning Quantities

| Name of substance | CAS No | Notes | Reportable quantity (pounds) | Threshold planning quantity (pounds) |
|-------------------|------------|-------|------------------------------|--------------------------------------|
| sodium azide | 26628-22-8 | a | 1,000 | 500 |

Legend

a This material is a reactive solid. The TPQ does not default to 10,000 pounds for non-powder, non-molten, non-solution form.

- Specific Toxic Chemical Listings (EPCRA Section 313)

Toxics Release Inventory: Specific Toxic Chemical Listings

| Name of substance | CAS No | Remarks | Effective date |
|-------------------|------------|---------|----------------|
| sodium azide | 26628-22-8 | | 1994-12-31 |

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Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

- List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

| Name of substance | CAS No | Remarks | Statutory code | Final RQ pounds (Kg) |
|-------------------|------------|---------|----------------|----------------------|
| sodium azide | 26628-22-8 | | 4 | 1000 (454) |

Legend

4 "4" indicates that the source is section 3001 of the Resource Conservation and Recovery Act (RCRA)

Clean Air Act

none of the ingredients are listed

Right to Know Hazardous Substance List

- Hazardous Substance List (NJ-RTK)

| Name of substance | CAS No | Remarks | Classifications |
|-------------------|------------|---------|-----------------|
| sodium azide | 26628-22-8 | | R3 |

Legend

R3 Reactive - Third Degree

California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

none of the ingredients are listed

Industry or sector specific available guidance(s)

NPCA-HMIS® III

Hazardous Materials Identification System. American Coatings Association.

| Category | Rating | Description |
|---------------------|--------|--|
| Chronic | / | none |
| Health | 0 | no significant risk to health |
| Flammability | 1 | material that must be preheated before ignition can occur |
| Physical hazard | 0 | material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive |
| Personal protection | - | |

NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

| Category | Degree of hazard | Description |
|--------------|------------------|---|
| Flammability | 1 | material that must be preheated before ignition can occur |
| Health | 0 | material that, under emergency conditions, would offer no hazard beyond that of ordinary combustible material |
| Instability | 0 | material that is normally stable, even under fire conditions |

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| Category | Degree of hazard | Description |
|----------------|------------------|-------------|
| Special hazard | | |

National inventories

| Country | Inventory | Status |
|---------|------------|--------------------------------|
| AU | AIIC | all ingredients are listed |
| CA | DSL | not all ingredients are listed |
| CN | IECSC | all ingredients are listed |
| EU | ECSI | not all ingredients are listed |
| EU | REACH Reg. | not all ingredients are listed |
| JP | CSCL-ENCS | not all ingredients are listed |
| KR | KECI | not all ingredients are listed |
| MX | INSQ | not all ingredients are listed |
| NZ | NZIoC | all ingredients are listed |
| PH | PICCS | not all ingredients are listed |
| TR | CICR | not all ingredients are listed |
| TW | TCSI | all ingredients are listed |
| US | TSCA | not all ingredients are listed |

Legend

| | |
|------------|---|
| AIIC | Australian Inventory of Industrial Chemicals |
| CICR | Chemical Inventory and Control Regulation |
| CSCL-ENCS | List of Existing and New Chemical Substances (CSCL-ENCS) |
| DSL | Domestic Substances List (DSL) |
| ECSI | EC Substance Inventory (EINECS, ELINCS, NLP) |
| IECSC | Inventory of Existing Chemical Substances Produced or Imported in China |
| INSQ | National Inventory of Chemical Substances |
| KECI | Korea Existing Chemicals Inventory |
| NZIoC | New Zealand Inventory of Chemicals |
| PICCS | Philippine Inventory of Chemicals and Chemical Substances (PICCS) |
| REACH Reg. | REACH registered substances |
| TCSI | Taiwan Chemical Substance Inventory |
| TSCA | Toxic Substance Control Act |

15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

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SECTION 16: Other information, including date of preparation or last revision

Indication of changes (revised safety data sheet)

| Section | Former entry (text/value) | Actual entry (text/value) | Safety-relevant |
|---------|---|---|-----------------|
| 1.1 | Trade name: Hygiena Dilutor DS | Trade name: Innovate Dilutor DS | yes |
| 1.1 | | Product code(s): ASY4004/ASY4007/ASY4010/ASY4059/ASY4065 Innovate Dilutor DS, KIT4000/KIT4001 Rapiscreen Dairy Kit, KIT4015 RapiScreen Dairy (25000) for Autosampler-Bar-Coded, KIT4016 RapiScreen Dairy (25000) for NUTRICIA Bar-Coded, KIT4034 Qualification Reagent Kit | yes |
| 2.3 | Results of PBT and vPvB assessment: Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0.1\%$. | Results of PBT and vPvB assessment: Does not contain a PBT-/vPvB-substance at a concentration of $\geq 0.1\%$. | yes |
| 2.3 | Endocrine disrupting properties: Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0.1\%$. | Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) in a concentration of $\geq 0.1\%$. | yes |
| 3.2 | | Description of the mixture: change in the listing (table) | yes |
| 3.2 | | Remarks: For full text of abbreviations: see SECTION 16 | yes |
| 8.1 | | Occupational exposure limit values (Workplace Exposure Limits): change in the listing (table) | yes |
| 11.1 | | Acute toxicity estimate (ATE) of components: change in the listing (table) | yes |
| 12.5 | Results of PBT and vPvB assessment: According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0.1\%$. | Results of PBT and vPvB assessment: According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance at a concentration of $\geq 0.1\%$. | yes |
| 12.6 | Endocrine disrupting properties: Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0.1\%$. | Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) in a concentration of $\geq 0.1\%$. | yes |

Abbreviations and acronyms

| Abbr. | Descriptions of used abbreviations |
|---------------|--|
| 49 CFR US DOT | 49 CFR U.S. Department of Transportation |
| ACGIH® 2024 | From ACGIH®, 2024 TLVs® and BEIs® Book. Copyright 2024. Reprinted with permission. Information on the proper use of the TLVs® and BEIs®: http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement |
| Acute Tox. | Acute toxicity |
| ATE | Acute Toxicity Estimate |
| Cal/OSHA PEL | California Division of Occupational Safety and Health (Cal/OSHA): Permissible Exposure Limits (PELs) |
| CAS | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances) |
| Ceiling-C | Ceiling value |

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| Abbr. | Descriptions of used abbreviations |
|----------------|---|
| DGR | Dangerous Goods Regulations (see IATA/DGR) |
| DNEL | Derived No-Effect Level |
| ED | Endocrine disruptor |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINCS | European List of Notified Chemical Substances |
| GHS | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations |
| IATA | International Air Transport Association |
| IATA/DGR | Dangerous Goods Regulations (DGR) for the air transport (IATA) |
| ICAO | International Civil Aviation Organization |
| IMDG | International Maritime Dangerous Goods Code |
| NIOSH REL | National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs) |
| NLP | No-Longer Polymer |
| NPCA-HMIS® III | National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition |
| OSHA | Occupational Safety and Health Administration (United States) |
| PBT | Persistent, Bioaccumulative and Toxic |
| PNEC | Predicted No-Effect Concentration |
| ppm | Parts per million |
| RTECS | Registry of Toxic Effects of Chemical Substances (database of NIOSH with toxicological information) |
| STEL | Short-term exposure limit |
| TLV® | Threshold Limit Values |
| TWA | Time-weighted average |
| vPvB | Very Persistent and very Bioaccumulative |

Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties: The classification is based on tested mixture.

Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

| Code | Text |
|------|-----------------------------|
| H300 | Fatal if swallowed. |
| H310 | Fatal in contact with skin. |
| H332 | Harmful if inhaled. |



Safety Data Sheet

29 CFR 1910.1200 App D

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Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.