


RP DNA Prep and Membrane Processing (MP) Kit

KIT2030

Date of compilation: 2021-11-29

Bill of materials

Name of substance	Identifier	Classification acc. to GHS	Pictograms	Page
MP Conjugate RP System Insert	Internal code ASY2040			2 – 14
MP Substrate RP System Insert	Internal code ASY2042	Eye Irrit. 2 / H319		15 – 26
DNA Prep Pack Riboprinter System	Internal code ASY2028			27 – 38
MP PROBE, FILLED INSERT (RIBOPRINTER SYSTEM)	Internal code ASY2041			39 – 49

MP Conjugate RP System InsertVersion number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

SECTION 1: Identification**1.1 Product identifier**

Trade name	MP Conjugate RP System Insert
Product code(s)	ASY2040

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

Relevant identified uses	Laboratory and analytical use
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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
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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
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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

of no significance

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

Not relevant (mixture)


3.2 Mixtures

MP Conjugate RP System Insert

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

Description of the mixture

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
Pyrogen Free Water	CAS No 7732-18-5	10 - < 25		
Sodium phosphate dibasic	CAS No 7758-79-4	5 - < 10		
I Block		3 - < 5		
Sodium Chloride	CAS No 7647-14-5	3 - < 5		
Tween 20	CAS No 9005-64-5	3 - < 5		
Sodium phosphate mono-basic	CAS No 7758-80-7	1 - < 3		
Trehalose Dihydrate	CAS No 6138-23-4	< 0.1		
Tris	CAS No 77-86-1	< 0.1		
Bovine Serum Albumin	CAS No 9048-46-8	< 0.1		
Magnesium Chloride (Anhydrous)	CAS No 7786-30-3	< 0.1		
Magnesium Chloride Hexahydrate	CAS No 7791-18-6	< 0.1		
Alkaline Phosphatase	CAS No 9001-78-9	< 0.1		
zinc chloride	CAS No 7646-85-7	< 0.1	Acute Tox. 4 / H302 Skin Corr. 1B / H314 STOT SE 3 / H335	
Anti DNA Antibody		< 0.1		

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.

MP Conjugate RP System Insert

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

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

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

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

MP Conjugate RP System Insert

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

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.

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	zinc chloride	7646-85-7	PEL (CA)		1		2			fume	Cal/ OSHA PEL
US	zinc chloride	7646-85-7	REL		1 (10 h)		2			fume	NIOSH REL
US	zinc chloride	7646-85-7	TLV®		1		2			fume	ACGIH® 2021
US	zinc chloride	7646-85-7	PEL		1					fume	29 CFR 1910.1000

Notation

Ceiling-C

ceiling value is a limit value above which exposure should not occur

MP Conjugate RP System Insert

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

Notation

fume as fume
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 of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
zinc chloride	7646-85-7	DNEL	1 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
zinc chloride	7646-85-7	DNEL	8.3 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

Relevant PNECs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
Tween 20	9005-64-5	PNEC	0.2 mg/l	aquatic organisms	freshwater	short-term (single instance)
Tween 20	9005-64-5	PNEC	0.02 mg/l	aquatic organisms	marine water	short-term (single instance)
Tween 20	9005-64-5	PNEC	1.141 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Tween 20	9005-64-5	PNEC	1,000 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Magnesium Chloride (Anhydrous)	7786-30-3	PNEC	3.21 mg/l	aquatic organisms	freshwater	short-term (single instance)
Magnesium Chloride (Anhydrous)	7786-30-3	PNEC	0.32 mg/l	aquatic organisms	marine water	short-term (single instance)
Magnesium Chloride (Anhydrous)	7786-30-3	PNEC	90 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Magnesium Chloride (Anhydrous)	7786-30-3	PNEC	288.9 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Magnesium Chloride (Anhydrous)	7786-30-3	PNEC	28.89 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Magnesium Chloride (Anhydrous)	7786-30-3	PNEC	662.8 mg/kg	terrestrial organisms	soil	short-term (single instance)
Magnesium Chloride Hexahydrate	7791-18-6	PNEC	3.21 mg/l	aquatic organisms	freshwater	short-term (single instance)
Magnesium Chloride Hexahydrate	7791-18-6	PNEC	0.32 mg/l	aquatic organisms	marine water	short-term (single instance)
Magnesium Chloride Hexahydrate	7791-18-6	PNEC	90 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)

MP Conjugate RP System Insert

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

Relevant PNECs of components of the mixture						
Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
Magnesium Chloride Hexahydrate	7791-18-6	PNEC	288.9 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Magnesium Chloride Hexahydrate	7791-18-6	PNEC	28.89 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Magnesium Chloride Hexahydrate	7791-18-6	PNEC	662.8 mg/kg	terrestrial organisms	soil	short-term (single instance)
zinc chloride	7646-85-7	PNEC	20.6 µg/l	aquatic organisms	freshwater	short-term (single instance)
zinc chloride	7646-85-7	PNEC	6.1 µg/l	aquatic organisms	marine water	short-term (single instance)
zinc chloride	7646-85-7	PNEC	100 µg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
zinc chloride	7646-85-7	PNEC	117.8 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
zinc chloride	7646-85-7	PNEC	56.5 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
zinc chloride	7646-85-7	PNEC	35.6 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.

MP Conjugate RP System Insert

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

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

MP Conjugate RP System Insert

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

9.2 Other information

Solvent content	36.47 %
Solid content	3.532 %

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 of the mixture			
Name of substance	CAS No	Exposure route	ATE
zinc chloride	7646-85-7	oral	1,100 mg/kg

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

MP Conjugate RP System Insert

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

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.

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

Data are not available.

12.6 Endocrine disrupting properties

None of the ingredients are listed.

12.7 Other adverse effects

Data are not available.

MP Conjugate RP System Insert

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

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) | not assigned |
| 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 Annex II of MARPOL and the IBC Code | 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)

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

MP Conjugate RP System Insert

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

- 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)
zinc chloride	7646-85-7		1	1000 (454)

Legend

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

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
zinc chloride	7646-85-7		CO
zinc chloride			

Legend

CO Corrosive

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).

MP Conjugate RP System Insert

Version number: 2.0
Replaces version of: (1.0)

Revision: 2021-11-29

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		

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

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® 2021	From ACGIH®, 2021 TLVs® and BEIs® Book. Copyright 2021. 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
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
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NIOSH REL	National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs)
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
OSHA	Occupational Safety and Health Administration (United States)

MP Conjugate RP System Insert

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

Abbr.	Descriptions of used abbreviations
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
STOT SE	Specific target organ toxicity - single 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
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H335	May cause respiratory irritation.

Disclaimer

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

MP Substrate RP System InsertVersion number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

SECTION 1: Identification**1.1 Product identifier**

Trade name **MP Substrate RP System Insert**
Product code(s) ASY2042

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)

Section	Hazard class	Category	Hazard class and category	Hazard statement
A.3	serious eye damage/eye irritation	2	Eye Irrit. 2	H319

For full text of abbreviations: see SECTION 16.

2.2 Label elements

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

- Signal word warning

- Pictograms

GHS07



- Hazard statements

H319 Causes serious eye irritation.

MP Substrate RP System Insert

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

- Precautionary statements

P280	Wear eye protection/face protection.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.

2.3 Other hazards

Hazards not otherwise classified

May be harmful if swallowed (GHS category 5: acutely toxic - oral).

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
Sodium bicarbonate	CAS No 144-55-8	50 - < 75		
Sodium Carbonate, Anhydrous	CAS No 497-19-8	10 - < 25	Eye Irrit. 2 / H319	
Magnesium Acetate Tetrahydrate	CAS No 16674-78-5	3 - < 5		
PPD	CAS No 122341-56-4	1 - < 3		

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

Rinse skin with water/shower.

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.

MP Substrate RP System Insert

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

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

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water, Foam, ABC-powder

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

Deposited combustible dust has considerable explosion potential.

Hazardous combustion products

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, Take up mechanically

Advice on how to clean up a spill

Take up mechanically.

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.

MP Substrate RP System Insert

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

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. Take precautionary measures against static discharge. Use only in well-ventilated areas. Ground/bond container and receiving equipment.

- Specific notes/details

Dust deposits may accumulate on all deposition surfaces in a technical room. The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

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

Managing of associated risks

- Explosive atmospheres

Removal of dust deposits.

- Ventilation requirements

Use local and general ventilation.

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	particulates not otherwise classified		REL							appx-D	NIOSH REL
US	particulates not otherwise classified (PNOC)		PEL	1,766	15					i, dust	29 CFR 1910.1000
US	particulates not otherwise classified (PNOC)		PEL	529.5	5					partml, r, dust	29 CFR 1910.1000
US	Particulates not otherwise regulated		PEL (CA)		10					dust	Cal/ OSHA PEL
US	Particulates not otherwise regulated		PEL (CA)		5					r	Cal/ OSHA PEL

MP Substrate RP System Insert

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

<u>Notation</u>	
appx-D	see Appendix D - Substances with No Established RELs
Ceiling-C	ceiling value is a limit value above which exposure should not occur
dust	as dust
i	inhalable fraction
partml	particles/ml
r	respirable fraction
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)

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 protective 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

Particulate filter device (EN 143).

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

Physical state	solid
Color	not determined
Odor	characteristic

Other safety parameters

MP Substrate RP System Insert

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

pH (value)	not applicable
Melting point/freezing point	not determined
Initial boiling point and boiling range	not determined
Flash point	not applicable
Evaporation rate	Not determined
Flammability (solid, gas)	this material is combustible, but will not ignite readily
Vapor pressure	66.9 Pa at 20 °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 relevant (solid matter)
Explosive properties	none
Oxidizing properties	none

9.2 Other information

Solvent content	7.4 %
Solid content	92.6 %

MP Substrate RP System Insert

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

SECTION 10: Stability and reactivity

10.1 Reactivity

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

10.2 Chemical stability

See below "Conditions to avoid".

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.

Hints to prevent fire or explosion

The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

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)

Acute toxicity

Shall not be classified as acutely toxic.

GHS of the United Nations, annex 4: May be harmful if swallowed.

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Causes serious eye irritation.

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.

MP Substrate RP System Insert

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

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

Data are not available.

12.6 Endocrine disrupting properties

None of the ingredients are listed.

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.

MP Substrate RP System Insert

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

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) | not assigned |
| 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 Annex II of MARPOL and the IBC Code | |
| 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)

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)

none of the ingredients are listed

Clean Air Act

none of the ingredients are listed

Right to Know Hazardous Substance List

MP Substrate RP System Insert

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

- Hazardous Substance List (NJ-RTK)

none of the ingredients are listed

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	2	temporary or minor injury may occur
Flammability	2	material that must be moderately heated or exposed to relatively high ambient temperatures 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	2	material that must be moderately heated or exposed to relatively high ambient temperatures 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	AICS	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

MP Substrate RP System Insert

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

Country	Inventory	Status
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	not all ingredients are listed
US	TSCA	not all ingredients are listed

Legend

AICS	Australian Inventory of Chemical Substances
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
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

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
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)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye

MP Substrate RP System Insert

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

Abbr.	Descriptions of used abbreviations
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
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
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
ppm	Parts per million
RTECS	Registry of Toxic Effects of Chemical Substances (database of NIOSH with toxicological information)
STEL	Short-term exposure limit
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
H319	Causes serious eye irritation.

Disclaimer

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

DNA Prep Pack Riboprinter SystemVersion number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

SECTION 1: Identification**1.1 Product identifier**

Trade name	DNA Prep Pack Riboprinter System
Product code(s)	ASY2028

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
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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
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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

of no significance

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

Not relevant (mixture)

3.2 Mixtures

DNA Prep Pack Riboprinter System

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

Description of the mixture

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
Polyvinylpyrrolidone	CAS No 9003-39-8	3 - < 5		
Carbowax	CAS No 25322-68-3	3 - < 5		
Achromopeptidase	CAS No 78642-25-8	1 - < 3		
Loading Dye Solution		1 - < 3		
Dithioerythritol	CAS No 6892-68-8	1 - < 3		
Pyrogen Free Water	CAS No 7732-18-5	0.1 - < 1		
Ribonuclease A	CAS No 9001-99-4	0.1 - < 1		
Ficoll 400 DL	CAS No 26873-85-8	0.1 - < 1		
Tris	CAS No 77-86-1	< 0.1		
Sodium Chloride	CAS No 7647-14-5	< 0.1		
EDTA disodium dihydrate	CAS No 6381-92-6	< 0.1		
Magnesium Chloride Hexahydrate	CAS No 7791-18-6	< 0.1		
Bromophenol Blue	CAS No 34725-61-6	< 0.1		
Xylene Cyanol	CAS No 2650-17-1	< 0.1		
dNTP Mix		< 0.1		
Lambda Phage DNA	CAS No 91080-14-7	< 0.1		

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.

DNA Prep Pack Riboprinter System

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

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

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

DNA Prep Pack Riboprinter System

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

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.

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

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

This information is not available.

Relevant DNELs of components of the mixture						
Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Carbowax	25322-68-3	DNEL	40.2 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
Carbowax	25322-68-3	DNEL	112 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

DNA Prep Pack Riboprinter System

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

Relevant DNELs of components of the mixture						
Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
EDTA disodium dihydrate	6381-92-6	DNEL	3 mg/m ³	human, inhalatory	worker (industry)	acute - local effects

Relevant PNECs of components of the mixture						
Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
Carbowax	25322-68-3	PNEC	0.273 g/l	aquatic organisms	freshwater	short-term (single instance)
Carbowax	25322-68-3	PNEC	27.3 mg/l	aquatic organisms	marine water	short-term (single instance)
Carbowax	25322-68-3	PNEC	1,030 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Carbowax	25322-68-3	PNEC	103 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Carbowax	25322-68-3	PNEC	46.4 mg/kg	terrestrial organisms	soil	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)
Magnesium Chloride Hexahydrate	7791-18-6	PNEC	3.21 mg/l	aquatic organisms	freshwater	short-term (single instance)
Magnesium Chloride Hexahydrate	7791-18-6	PNEC	0.32 mg/l	aquatic organisms	marine water	short-term (single instance)
Magnesium Chloride Hexahydrate	7791-18-6	PNEC	90 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Magnesium Chloride Hexahydrate	7791-18-6	PNEC	288.9 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Magnesium Chloride Hexahydrate	7791-18-6	PNEC	28.89 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Magnesium Chloride Hexahydrate	7791-18-6	PNEC	662.8 mg/kg	terrestrial organisms	soil	short-term (single instance)

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

DNA Prep Pack Riboprinter System

Version number: 2.0
Replaces version of: (1.0)

Revision: 2021-11-29

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

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	205.7 °C at 977.6 hPa
Flash point	not determined
Evaporation rate	Not determined
Flammability (solid, gas)	not relevant, (fluid)
Vapor pressure	<0.1 Pa at 20 °C

DNA Prep Pack Riboprinter System

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

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	360 °C
Viscosity	not determined
Explosive properties	none
Oxidizing properties	none

9.2 Other information

Solvent content	9.921 %
Solid content	4.661 %
Temperature class (USA, acc. to NEC 500)	T2 (maximum permissible surface temperature on the equipment: 300°C)

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.

DNA Prep Pack Riboprinter System

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

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.

Carcinogenicity

Shall not be classified as carcinogenic.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans

Name of substance	CAS No	Classification	Number
Polyvinylpyrrolidone	9003-39-8	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.

DNA Prep Pack Riboprinter System

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

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

Data are not available.

12.6 Endocrine disrupting properties

None of the ingredients are listed.

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)	not assigned
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.	

DNA Prep Pack Riboprinter System

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

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)

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)

none of the ingredients are listed

Clean Air Act

none of the ingredients are listed

Right to Know Hazardous Substance List

- Hazardous Substance List (NJ-RTK)

none of the ingredients are listed

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.

DNA Prep Pack Riboprinter System

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

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		

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

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
49 CFR US DOT	49 CFR U.S. Department of Transportation
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
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
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")

DNA Prep Pack Riboprinter System

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

Abbr.	Descriptions of used abbreviations
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
RTECS	Registry of Toxic Effects of Chemical Substances (database of NIOSH with toxicological information)
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).

Disclaimer

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

MP PROBE, FILLED INSERT (RIBOPRINTER SYSTEM)Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

SECTION 1: Identification**1.1 Product identifier**

Trade name	MP PROBE, FILLED INSERT (RIBOPRINTER SYSTEM)
Product code(s)	ASY2041

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

Relevant identified uses	Laboratory and analytical use
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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
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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
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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

of no significance

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

Not relevant (mixture)


3.2 Mixtures

MP PROBE, FILLED INSERT (RIBOPRINTER SYSTEM)

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

Description of the mixture

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
Lithium dodecyl sulphate	CAS No 2044-56-6	25 - < 50	Acute Tox. 4 / H302	
Sodium Chloride	CAS No 7647-14-5	25 - < 50		
Tris HCl	CAS No 1185-53-1	25 - < 50		
Tris	CAS No 77-86-1	1 - < 3		
Pyrogen Free Water	CAS No 7732-18-5	1 - < 3		
DNA LINEARIZED VECTOR		< 0.1		

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

MP PROBE, FILLED INSERT (RIBOPRINTER SYSTEM)

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray, Alcohol resistant foam, BC-powder, Carbon dioxide (CO₂)

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

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

Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

MP PROBE, FILLED INSERT (RIBOPRINTER SYSTEM)

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

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 feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

- Packaging compatibilities

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used.

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

This information is not available.

Relevant DNELs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Lithium dodecyl sulphate	2044-56-6	DNEL	7.6 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
Lithium dodecyl sulphate	2044-56-6	DNEL	433.3 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Tris HCl	1185-53-1	DNEL	152.8 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
Tris HCl	1185-53-1	DNEL	216.6 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

Relevant PNECs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
Lithium dodecyl sulphate	2044-56-6	PNEC	0.088 mg/l	aquatic organisms	freshwater	short-term (single instance)
Lithium dodecyl sulphate	2044-56-6	PNEC	0.009 mg/l	aquatic organisms	marine water	short-term (single instance)
Lithium dodecyl sulphate	2044-56-6	PNEC	1.35 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)

MP PROBE, FILLED INSERT (RIBOPRINTER SYSTEM)

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

Relevant PNECs of components of the mixture						
Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
Lithium dodecyl sulphate	2044-56-6	PNEC	3.098 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Lithium dodecyl sulphate	2044-56-6	PNEC	0.31 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Lithium dodecyl sulphate	2044-56-6	PNEC	0.577 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.

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

MP PROBE, FILLED INSERT (RIBOPRINTER SYSTEM)

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

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)

- Water solubility	miscible in any proportion
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Partition coefficient

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

9.2 Other information

Solvent content	4.31 %
Solid content	95.69 %

MP PROBE, FILLED INSERT (RIBOPRINTER SYSTEM)

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

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

There is no additional information.

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 of the mixture

Name of substance	CAS No	Exposure route	ATE
Lithium dodecyl sulphate	2044-56-6	oral	1,200 mg/kg

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.

MP PROBE, FILLED INSERT (RIBOPRINTER SYSTEM)

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

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

No data available.

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

Data are not available.

12.6 Endocrine disrupting properties

Information on this property is not available.

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

Only packagings which are approved (e.g. acc. to DOT) may be used. 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.

MP PROBE, FILLED INSERT (RIBOPRINTER SYSTEM)

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

SECTION 14: Transport information

14.1 UN number

DOT UN

14.2 UN proper shipping name

not assigned

14.3 Transport hazard class(es)

not assigned

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 Annex II of MARPOL and the IBC Code

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 assigned

International Maritime Dangerous Goods Code (IMDG) - Additional information

not assigned

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

not assigned

SECTION 15: Regulatory information

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

Industry or sector specific available guidance(s)

NPCA-HMIS® III

Hazardous Materials Identification System. American Coatings Association.

NFPA® 704

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

15.2 Chemical Safety Assessment

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

MP PROBE, FILLED INSERT (RIBOPRINTER SYSTEM)

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

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

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
49 CFR US DOT	49 CFR U.S. Department of Transportation
Acute Tox.	Acute toxicity
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
DOT	Department of Transportation (USA)
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
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
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
RTECS	Registry of Toxic Effects of Chemical Substances (database of NIOSH with toxicological information)
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
H302	Harmful if swallowed.



Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

MP PROBE, FILLED INSERT (RIBOPRINTER SYSTEM)

Version number: 2.0
Replaces version of: (1. 0)

Revision: 2021-11-29

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