PROTECT 3412

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Issue date: 03/28/2021 Revision date: 04/15/2021

SECTION 1: Identification

1.1. Identification

Product form : Mixture

Name : PROTECT 3412

1.2. Recommended use and restrictions on use

Recommended use : Closed system treatment

1.3. Supplier

Kurita America Inc.
6600 94th Ave North
Minneapolis, MN 55445 - USA
T 866-663-7632
kai_sds@kurita-water.com - www.kuritaamerica.com

1.4. Emergency telephone number

Emergency number : CHEMTEL, For Chemical Emergency Call 800-255-3924 24hr/day 7days/week
Kurita America: 866-663-7633 International: +01-813-248-0585

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Corrosive to metals, Category 1	H290	May be corrosive to metals.
Skin corrosion/irritation, Category 2	H315	Causes skin irritation.
Serious eye damage/eye irritation, Category 1	H318	Causes serious eye damage.
Skin sensitisation, Category 1	H317	May cause an allergic skin reaction.
Hazardous to the aquatic environment — Acute Hazard, Category 3	H402	Harmful to aquatic life

Full text of H- and EUH-statements: see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labelling

Hazard pictograms (GHS US) :

Signal word (GHS US) : Danger

Hazard statements (GHS US) : H290 - May be corrosive to metals.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
H402 - Harmful to aquatic life

Precautionary statements (GHS US) : P234 - Keep only in original container.
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P272 - Contaminated work clothing must not be allowed out of the workplace.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 - If on skin: Wash with plenty of water.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a poison center or doctor.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.

P362+P364 - Take off contaminated clothing and wash it before reuse.
P363 - Wash contaminated clothing before reuse.
P390 - Absorb spillage to prevent material damage.
P406 - Store in corrosive resistant container with a resistant inner liner.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Potassium hydroxide	(CAS-No.) 1310-58-3	1 – 5	Met. Corr. 1, H290 Acute Tox. 4 (Oral), H302 Skin Corr. 1, H314 Eye Dam. 1, H318
1-Hydroxyethane-1,1-diphosphonic acid	(CAS-No.) 2809-21-4	0.1 – 1	Met. Corr. 1, H290 Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318
Tolyltriazole, sodium salt	(CAS-No.) 64665-57-2	0.1 – 1	Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Aquatic Chronic 2, H411
Maleic acid	(CAS-No.) 110-16-7	0.01 – 0.1	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 STOT SE 3, H335 Aquatic Acute 3, H402

Full text of hazard classes, H- and EUH-statements: see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after skin contact : Irritation. May cause an allergic skin reaction.

Symptoms/effects after eye contact : Serious damage to eyes.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.

Methods for cleaning up : Take up liquid spill into absorbent material.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Wear personal protective equipment. Avoid breathing dust/fume/gas/mist/vapours/spray.

Hygiene measures : Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in corrosive resistant container with a resistant inner liner. Keep only in original container. Store in a well-ventilated place. Keep cool.

Incompatible materials : Metals.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

PROTECT 3412	
No additional information available	

1-Hydroxyethane-1,1-diphosphonic acid (2809-21-4)	
No additional information available	

Tolyltriazole, sodium salt (64665-57-2)	
No additional information available	

Potassium hydroxide (1310-58-3)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Potassium hydroxide
ACGIH OEL C	2 mg/m³
Remark (ACGIH)	TLV® Basis: URT, eye, & skin irr
Regulatory reference	ACGIH 2020

Maleic acid (110-16-7)	
No additional information available	

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Colour	:	No data available
Odour	:	No data available
Odour threshold	:	No data available
pH	:	No data available
Melting point	:	Not applicable
Freezing point	:	No data available
Boiling point	:	100 (212 °F)
Flash point	:	Nonflammable (T.C.C.)
Relative evaporation rate (butylacetate=1)	:	No data available
Flammability (solid, gas)	:	Not applicable.
Vapour pressure	:	No data available
Relative vapour density at 20 °C	:	No data available
Relative density	:	1.05 (H2O = 1)
Solubility	:	Water: 100 %
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive limits	:	No data available
Explosive properties	:	No data available
Oxidising properties	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

metals.

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

1-Hydroxyethane-1,1-diphosphonic acid (2809-21-4)	
ATE US (oral)	500 mg/kg bodyweight

Tolyltriazole, sodium salt (64665-57-2)	
ATE US (oral)	500 mg/kg bodyweight

Potassium hydroxide (1310-58-3)	
ATE US (oral)	500 mg/kg bodyweight

Maleic acid (110-16-7)	
LD50 oral rat	2870 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 2470 - 3250
LD50 dermal rabbit	2620 mg/kg bodyweight Animal: rabbit, Animal sex: female, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
ATE US (oral)	2870 mg/kg bodyweight
ATE US (dermal)	2620 mg/kg bodyweight

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye damage.
Respiratory or skin sensitisation : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

Maleic acid (110-16-7)	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified
Viscosity, kinematic : No data available

Symptoms/effects after skin contact : Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact : Serious damage to eyes.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Harmful to aquatic life.

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description (DOT)	: UN1814 Potassium hydroxide, solution, 8, PG III
UN-No.(DOT)	: UN1814
Proper Shipping Name (DOT)	: Potassium hydroxide, solution
Class (DOT)	: 8 - Class 8 - Corrosive material 49 CFR 173.136
Packing group (DOT)	: PG III - Minor Danger
Hazard labels (DOT)	: 8 - Corrosive

DOT Packaging Non Bulk (49 CFR 173.xxx)	: 203
DOT Packaging Bulk (49 CFR 173.xxx)	: 241
DOT Special Provisions (49 CFR 172.102)	: IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / (1 + a (tr - tf)) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 154
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 5 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 60 L
DOT Vessel Stowage Location	: A - The material may be stowed ''on deck'' or ''under deck'' on a cargo vessel and on a passenger vessel.
DOT Vessel Stowage Other	: 52 - Stow ''separated from'' acids
Emergency Response Guide (ERG) Number	: 154
Other information	: No supplementary information available.

Transportation of Dangerous Goods

Not applicable

Transport by sea

UN-No. (IMDG)	: 1814
Proper Shipping Name (IMDG)	: POTASSIUM HYDROXIDE SOLUTION

Class (IMDG)	:	8 - Corrosive substances
Packing group (IMDG)	:	III - substances presenting low danger
Limited quantities (IMDG)	:	5 L

Air transport

Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory except for:

Tolyltriazole, sodium salt	CAS-No. 64665-57-2	0.1 – 1%

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Potassium hydroxide (1310-58-3)	
CERCLA RQ	1000 lb

Maleic acid (110-16-7)	
CERCLA RQ	5000 lb

15.2. International regulations

CANADA

1-Hydroxyethane-1,1-diphosphonic acid (2809-21-4)
Listed on the Canadian DSL (Domestic Substances List)
Potassium hydroxide (1310-58-3)
Listed on the Canadian DSL (Domestic Substances List)
Maleic acid (110-16-7)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations
No additional information available

National regulations
No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Component	State or local regulations
Potassium hydroxide(1310-58-3)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
Maleic acid(110-16-7)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date	:	04/15/2021

Full text of H-statements:

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H402	Harmful to aquatic life
H411	Toxic to aquatic life with long lasting effects.

Kurita - SDS US (GHS HazCom 2012)

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Revision Notes: *Updated to GHS format*
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