

SAFETY DATA SHEET

KLEEN MCT411

1. Identification

Product identifier KLEEN MCT411
Other means of identification None.
Recommended use of the chemical and restrictions on use
Recommended use Reverse Osmosis membrane cleaner
Restrictions on use Industrial usage.

Company/undertaking identification

SUEZ WATER TECHNOLOGIES & SOLUTIONS PTY LIMITED
 103 Raubers Road, Northgate, QLD 4013 Australia
 Level 6, 63 Albert Street, Auckland, 1010, New Zealand
 Tel: 1800 064 140 (AUS) 0800 945635 (NZ)

Emergency telephone

+61-290372994 (Aust) +64-98010034 (NZ)

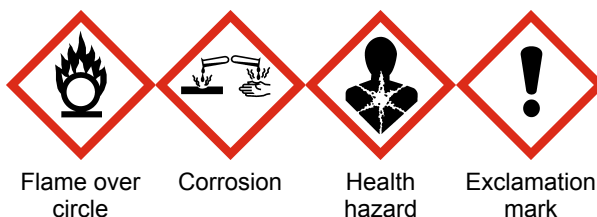
2. Hazard(s) identification

Classification of the hazardous chemical

Physical hazards	Oxidizing solids	Category 3
	Corrosive to metals	Category 1
Health hazards	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Reproductive toxicity	Category 1B
Environmental hazards	Hazardous to the aquatic environment, long-term hazard	Category 4

Label elements, including precautionary statements

Hazard symbol(s)



Signal word

Danger

Hazard statement(s)

May intensify fire; oxidizer. May be corrosive to metals. Causes severe skin burns and eye damage. Causes serious eye damage. Harmful if inhaled. May damage fertility or the unborn child. May cause long lasting harmful effects to aquatic life.

Precautionary statement(s)

Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat. Keep/Store away from clothing/combustible materials. Take any precaution to avoid mixing with combustibles. Keep only in original container. Avoid breathing dust. Avoid breathing mist. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

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Response	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse. In case of fire: Use appropriate media for extinction. Absorb spillage to prevent material damage.
Storage	Store locked up. Store in corrosive resistant container with a resistant inner liner.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Other hazards which do not result in classification	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Identity of chemical ingredients	CAS number and other unique identifiers	Concentration of ingredients
Sodium perborate monohydrate	10332-33-9	40 - < 50
Sodium tripolyphosphate	7758-29-4	30 - < 40
Ethylenediamine tetraacetic acid, tetrasodium salt (EDTA.4Na)	64-02-8	10 - < 20
Sodium hydroxide	1310-73-2	3 - < 5
Tetrasodium pyrophosphate (TSPP)	7722-88-5	1 - < 3

4. First-aid measures

Description of necessary first aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Call a poison center or doctor/physician if you feel unwell.
Skin contact	If on clothing: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Personal protection for first-aid responders	Take off all contaminated clothing immediately. Contact with combustible material may cause fire. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.
Symptoms caused by exposure	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Medical attention and special treatment	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media Not available.

Specific hazards arising from the chemical Greatly increases the burning rate of combustible materials. Containers may explode when heated. During fire, gases hazardous to health may be formed.

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Special protective equipment and precautions for fire fighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers.
Hazchem code	None.
General fire hazards	May intensify fire; oxidizer. Contact with combustible material may cause fire.
Specific methods	Cool containers exposed to flames with water until well after the fire is out.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep away from clothing and other combustible materials. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist. Avoid inhalation of dust. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

For emergency responders Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

Environmental precautions Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

Methods and materials for containment and cleaning up Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Ventilate the contaminated area. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Minimize dust generation and accumulation. Wear appropriate protective equipment and clothing during clean-up. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk.

Large Spills: Wet down with water and dike for later disposal. Absorb spillage to prevent material damage. Absorb in vermiculite, dry sand or earth and place into containers. Shovel the material into waste container. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

7. Handling and storage

Precautions for safe handling Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Keep away from heat. Take any precaution to avoid mixing with combustibles. Keep away from clothing and other combustible materials. Do not get in eyes, on skin, or on clothing. Avoid breathing mist. Avoid breathing dust. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities Store locked up. Keep away from heat. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Keep only in the original container. Store in a well-ventilated place. Do not store near combustible materials. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls and personal protection

Control parameters Follow standard monitoring procedures.

Occupational exposure limits

Australia. National Workplace OELs (Workplace Exposure Standards for Airborne Contaminants, Appendix A)

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m ³
Tetrasodium pyrophosphate (TSP) (CAS 7722-88-5)	TWA	5 mg/m ³

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US. ACGIH Threshold Limit Values

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m ³

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	STEL	2 mg/m ³
Tetrasodium pyrophosphate (TSPP) (CAS 7722-88-5)	TWA	5 mg/m ³

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.
Individual protection measures, for example personal protective equipment (PPE)	
Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. Frequent change is advisable.
Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
Hygiene measures	Observe any medical surveillance requirements. Keep from contact with clothing and other combustible materials. Remove and wash contaminated clothing promptly. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Powder
Physical state	Solid.
Form	Solid.
Color	White to off-white
Odor	None
Odor threshold	Not available.
pH in aqueous solution	11 (5% SOL.)
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	> 100 °C P-M(CC)
Evaporation rate	< 1 (Ether = 1)
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	< 1 mm Hg
Vapor pressure temp.	21 °C

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Vapor density	< 1 (Air = 1)
Relative density	Not available.
Relative density temperature	21 °C
Solubility(ies)	
Solubility (water)	5 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Viscosity temperature	21 °C

Other physical and chemical parameters

Explosive properties	Not explosive.
Oxidizing properties	May intensify fire; oxidizer.
pH in aqueous solution	11 (5% SOL.)
VOC	0 % (Estimated)

10. Stability and reactivity

Reactivity	Greatly increases the burning rate of combustible materials. May be corrosive to metals.
Chemical stability	Not available.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials.
Incompatible materials	Strong acids. Strong oxidizing agents. Combustible material. Reducing agents. Metals.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on possible routes of exposure

Inhalation	Harmful if inhaled.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.

Symptoms related to exposure Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Acute toxicity Harmful if inhaled.

Product	Species	Test Results
KLEEN MCT411 (CAS Mixture)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg, (Calculated according to GHS additivity formula)
<i>Inhalation</i>		
LC50	Rat	1.2 mg/l, 4 Hours, (Calculated according to GHS additivity formula (Category 4))
<i>Oral</i>		
LD50	Rat	1838 mg/kg, (Calculated according to GHS additivity formula)

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Components	Species	Test Results
Ethylenediamine tetraacetic acid, tetrasodium salt (EDTA.4Na) (CAS 64-02-8)		
Acute		
<i>Oral</i>		
LD50	Rat	1658 mg/kg
Sodium hydroxide (CAS 1310-73-2)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	1350 mg/kg
<i>Oral</i>		
LD50	Rabbit	> 500 mg/kg
Sodium perborate monohydrate (CAS 10332-33-9)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg
<i>Inhalation</i>		
LC50	Rat	0.5 mg/l, 4 Hours
<i>Oral</i>		
LD50	Rat	1120 mg/kg
Sodium tripolyphosphate (CAS 7758-29-4)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg
<i>Oral</i>		
LD50	Rat	4100 mg/kg
Tetrasodium pyrophosphate (TSPP) (CAS 7722-88-5)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 7940 mg/kg
<i>Inhalation</i>		
LC50	Rat	> 1.1 mg/l, 4 Hour
<i>Oral</i>		
LD50	Rat	3770 mg/kg
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.	
Serious eye damage/irritation	Direct contact with eyes may cause temporary irritation.	
Respiratory or skin sensitization		
Respiratory sensitization	Not a respiratory sensitizer. This product is not expected to cause respiratory sensitization.	
Skin sensitization	This product is not expected to cause skin sensitization.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	Not available.	
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	
Specific target organ toxicity - single exposure	Not classified.	
Specific target organ toxicity - repeated exposure	Not available.	
Aspiration hazard	Not an aspiration hazard. Based on available data, the classification criteria are not met.	
Chronic effects	Prolonged inhalation may be harmful.	

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12. Ecological information

Ecotoxicity May cause long lasting harmful effects to aquatic life.

Product	Species	Test Results	
KLEEN MCT411 (CAS Mixture)			
Aquatic			
Crustacea	0% Mortality	Daphnia magna	18 mg/L, Acute Toxicity, 48 hour, (Estimated)
	LC50	Daphnia magna	25 mg/L, Acute Toxicity, 48 hour, (Estimated)
Fish	0% Mortality	Fathead Minnow	50 mg/L, Acute Toxicity, 96 hour, (Estimated)
	LC50	Fathead Minnow	105 mg/L, Acute Toxicity, 96 hour, (Estimated)

Bioaccumulative potential

Partition coefficient

n-octanol / water (log Kow)

Ethylenediamine tetraacetic acid, tetrasodium salt (EDTA.4Na) -3.86

Bioconcentration factor (BCF)

Ethylenediamine tetraacetic acid, tetrasodium salt (EDTA.4Na) 3

Mobility in soil No data available for this product.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

Environmental fate Harmful to aquatic life with long lasting effects.

Persistence and degradability

No data is available on the degradability of any ingredients in the mixture.

- COD (mgO2/g)	97 (calculated data)
- BOD 5 (mgO2/g)	1 (calculated data)
- BOD 28 (mgO2/g)	2 (calculated data)
- Closed Bottle Test (% Degradation in 28 days)	10
- Zahn-Wellens Test (% Degradation in 28 days)	3
- TOC (mg C/g)	40 (calculated data)

13. Disposal considerations

Disposal methods Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Residual waste Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

ADG	
UN number	3084
UN proper shipping name	CORROSIVE SOLID, OXIDISING, N.O.S. (Sodium perborate monohydrate; Sodium hydroxide)
Transport hazard class(es)	
Class	8
Subsidiary risk	5.1

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Packing group II
Environmental hazards Not available.
Hazchem code 2W
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IATA
UN number 3084
UN proper shipping name CORROSIVE SOLID, OXIDIZING, N.O.S. (Sodium perborate monohydrate; Sodium hydroxide)
Transport hazard class(es)
Class 8
Subsidiary risk 5.1
Packing group II
Environmental hazards No.
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG
UN number 3084
UN proper shipping name CORROSIVE SOLID, OXIDIZING, N.O.S. (SODIUM PERBORATE MONOHYDRATE, SODIUM HYDROXIDE)
Transport hazard class(es)
Class 8
Subsidiary risk 5.1
Packing group II
Environmental hazards
Marine pollutant No.
EmS F-A, S-Q
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
 RQ(SODIUM TRIPOLYPHOSPHATE, Sodium hydroxide)

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

ADG



IATA; IMDG



15. Regulatory information

Safety, health and environmental regulations

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National regulations

This Safety Data Sheet was prepared in accordance with Australia Model Code of Practice for the preparation of Safety Data Sheets for Hazardous Chemicals (May 2018).

Group Standard - Oxidising substances and organic peroxides - Oxidising, Toxic [6.1 + 6.7], Corrosive HSR002633

Australia Medicines & Poisons Appendix A

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix B

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix D

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix E

Sodium hydroxide (CAS 1310-73-2)

Australia Medicines & Poisons Appendix F

Sodium hydroxide (CAS 1310-73-2)

Australia Medicines & Poisons Appendix G

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix H

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix I

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix J

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix K

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 10

Sodium hydroxide (CAS 1310-73-2)

Australia Medicines & Poisons Schedule 2

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 3

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 4

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 5

Sodium hydroxide (CAS 1310-73-2)

Australia Medicines & Poisons Schedule 6

Sodium hydroxide (CAS 1310-73-2)

Australia Medicines & Poisons Schedule 7

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 8

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 9

Poisons schedule number not allocated.

Australia National Pollutant Inventory (NPI): Threshold quantity

Sodium perborate monohydrate (CAS 10332-33-9)

10 TONNES/YR Threshold Category: 1

High Volume Industrial Chemicals (HVIC)

Sodium hydroxide (CAS 1310-73-2)

> 1000000 TONNES See the regulation for additional information.

Sodium tripolyphosphate (CAS 7758-29-4)

10000 - 99999 TONNES See the regulation for additional information.

Importation of Ozone Depleting Substances (Customs(Prohibited imports) Regulations 1956, Schedule 10)

Not listed.

National Pollutant Inventory (NPI) substance reporting list

Not listed.

Prohibited Carcinogenic Substances

Not regulated.

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Prohibited Substances (National Model Regulation for the control of Workplace Hazardous Substances, Schedule 2 NOHSC:1005 (1994) as amended)

Not listed.

Restricted Importation of Organochlorine Chemicals (Customs(Prohibited Imports) Regulations 1956, Schedule 9)

Not listed.

Restricted Carcinogenic Substances

Not regulated.

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

Issue date 11-April-2021

Revision date 11/04/2021

References: No data available

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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Revision information

Product and Company Identification: Product and Company Identification
Composition / Information on Ingredients: Additional Components
Physical & Chemical Properties: Multiple Properties
Toxicological Information: Toxicological Data
Transport Information: Material Transportation Information
Regulatory Information: Risk Phrases - Classification
Material Attributes & Uses; Experimental Data: Experimental Data
HazReg Data: Pacific Rim
GHS: Classification