Safety Data Sheet

SHIELD PINE

Revision: 2023-07-18 **Version:** 01.1

SECTION 1: Identification of the substance/mixture and supplier

1.1 Product identifier
Product name: SHIELD PINE

1.2 Recommended use and restrictions on use
Identified uses:
Commercial grade disinfectant
Restrictions of use:
Uses other than those identified are not recommended

1.3 Details of the supplier
DIVERSEY NEW ZEALAND LTD.
24 Bancroft Crescent, Glendene, Auckland, 0602, New Zealand
Telephone: 0800 803 615 (toll free)

Website: www.diversey.com

1.4 Emergency telephone number
Seek medical advice (show the label or safety data sheet where possible)
Call 0800 243 622 (24 hrs)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Skin sensitisation, Category 1
Chronic aquatic toxicity, Category 3

2.2 Label elements

Signal word: Warning

Hazard statements:
H317 - May cause an allergic skin reaction.
H412 - Harmful to aquatic life with long lasting effects.

Prevention statement(s):
P233 - Keep container tightly closed.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P280 - Wear protective gloves.

Response statement(s):
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
P321 - Specific treatment (see supplemental first aid instructions on this label).
P362 + P364 - Take off contaminated clothing and wash it before reuse.
P363 - Wash contaminated clothing before reuse.

Disposal statement(s):
P501 - Dispose of contents and container in accordance with national regulations.

2.3 Other hazards
No other hazards known.

2.4 Classification diluted product:

Recommended maximum concentration (% w/w): 4.8

Not classified as hazardous

SECTION 3: Composition/information on ingredients

3.1 Substances / Mixtures

Ingredient(s)	CAS#	EC number	Weight percent
n-alkyl dimethyl benzyl ammonium chloride	68424-85-1	270-325-2	1-3
pine oil	8002-09-3	289-870-2	1-3

Non-hazardous ingredients are the remainder and add up to 100%.

Workplace exposure limit(s), if available, are listed in subsection 8.1.

SECTION 4: First aid measures

4.1 Description of first aid measures

General Information: Symptoms of intoxication may even occur after several hours. It is recommended to continue medical observation for at least 48 hours after the incident.

Inhalation: Get medical attention or advice if you feel unwell.

Skin contact: Wash skin with plenty of lukewarm, gently flowing water. If skin irritation occurs: Get medical advice or attention.

Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion: Rinse mouth. Immediately drink 1 glass of water. Never give anything by mouth to an unconscious person. Get medical attention or advice if you feel unwell.

Self-protection of first aider: Consider personal protective equipment as indicated in subsection 8.2.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation: No known effects or symptoms in normal use.

Skin contact: May cause an allergic skin reaction.

Eye contact: No known effects or symptoms in normal use.

Ingestion: No known effects or symptoms in normal use.

4.3 Indication of any immediate medical attention and special treatment needed

No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.

Poison Information Center: Call 0800 764 766 (0800 POISON)

SECTION 5: Firefighting measures

5.1 Extinguishing media

Carbon dioxide. Dry powder. Water spray jet. Fight larger fires with water spray jet or alcohol-resistant foam.

5.2 Special hazards arising from the substance or mixture

No special hazards known.

5.3 Advice for firefighters

As in any fire, wear self contained breathing apparatus and suitable protective clothing including gloves and eye/face protection.

5.4 Hazchem code

None allocated

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear suitable gloves.

6.2 Environmental precautions

Dilute with plenty of water. Do not allow to enter drainage system, surface or ground water. Do not allow to enter the ground/soil. Inform responsible authorities in case undiluted product reaches drainage system, surface or ground water or the ground/soil.

6.3 Methods and material for containment and cleaning up

Dyke to collect large liquid spills. Absorb with liquid-binding material (sand, diatomite, universal binders). Do not place spilled materials back into the original container. Collect in closed and suitable containers for disposal.

6.4 Reference to other sections
For personal protective equipment see subsection 8.2. For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Measures to prevent fire and explosions:
No special precautions required.

Measures required to protect the environment:
For environmental exposure controls see subsection 8.2.

Advices on general occupational hygiene:
Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not mix with other products unless adviced by Diversey. Wash hands before breaks and at the end of workday. Take off contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Avoid contact with skin. Do not breathe spray. Use only with adequate ventilation. See chapter 8.2, Exposure controls / Personal protection.

7.2 Conditions for safe storage, including any incompatibilities
Store in accordance with local and national regulations. Store in a closed container. Keep only in original packaging. Keep from freezing.
For conditions to avoid see subsection 10.4. For incompatible materials see subsection 10.5.

7.3 Specific end use(s)
No specific advice for end use available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
Workplace exposure limits

Air limit values, if available:

Biological limit values, if available:

8.2 Exposure controls

The following information applies for the uses indicated in subsection 1.2 of the Safety Data Sheet.
If available, please refer to the product information sheet for application and handling instructions.
Normal use conditions are assumed for this section.

Recommended safety measures for handling the undiluted product:
Covering activities such as filling and transfer of product to application equipment, flasks or buckets

Appropriate engineering controls: If the product is diluted by using specific dosing systems with no risk of splashes or direct skin contact, the personal protection equipment as described in this section is not required.
Appropriate organisational controls: Avoid direct contact and/or splashes where possible. Train personnel.

Personal protective equipment
Eye / face protection: Safety glasses are not normally required. However, their use is recommended in those cases where splashes may occur when handling the product (EN 166).
Hand protection: Chemical-resistant protective gloves (AS/NZS 2161.10). Verify instructions regarding permeability and breakthrough time, as provided by the gloves supplier. Consider specific local use conditions, such as risk of splashes, cuts, contact time and temperature.
Suggested gloves for prolonged contact: Material: butyl rubber Penetration time: ≥ 480 min Material thickness: ≥ 0.7 mm
Suggested gloves for protection against splashes: Material: nitrile rubber Penetration time: ≥ 30 min Material thickness: ≥ 0.4 mm
In consultation with the supplier of protective gloves a different type providing similar protection may be chosen.
Body protection: No special requirements under normal use conditions.
Respiratory protection: No special requirements under normal use conditions.

Environmental exposure controls: No special requirements under normal use conditions.

Recommended safety measures for handling the diluted product:

Recommended maximum concentration (% w/w): 4.8

Appropriate engineering controls: Use only in well ventilated areas.
Appropriate organisational controls: No special requirements under normal use conditions.

Personal protective equipment

Eye / face protection:	No special requirements under normal use conditions.
Hand protection:	No special requirements under normal use conditions.
Body protection:	No special requirements under normal use conditions
Respiratory protection:	Trigger spray bottle application: No special requirements under normal use conditions. Apply technical measures to comply with the occupational exposure limits, if available.
Environmental exposure controls:	No special requirements under normal use conditions.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

	Method / remark
Physical state: Liquid	
Colour: Clear , Green	
Odour: Product specific	
Odour threshold: Not applicable	
pH: ≈ 7 (neat)	ISO 4316
Dilution pH: ≈ 7 (4.8 %)	ISO 4316
Melting point/freezing point (°C): Not determined	Not relevant to classification of this product
Initial boiling point and boiling range (°C): Not determined	
Flammability (liquid): Not flammable.	
Flash point (°C): > 93 °C	closed cup
Sustained combustion: Not applicable.	
(UN Manual of Tests and Criteria, section 32, L.2)	
Evaporation rate: Not determined	Not relevant to classification of this product
Flammability (solid, gas): Not applicable to liquids	
Lower and upper explosion limit/flammability limit (%): Not determined	
Vapour pressure: Not determined	
Relative vapour density No data available	Not relevant to classification of this product
Relative density: ≈ 1.00 (20 °C)	OECD 109 (EU A.3)
Solubility in / Miscibility with water: Fully miscible	
Partition coefficient: n-octanol/water No information available.	

Substance data, partition coefficient n-octanol/water (log Kow): see subsection 12.3

Autoignition temperature: Not determined
Decomposition temperature: Not applicable.
Viscosity: Not determined
Explosive properties: Not explosive.
Oxidising properties: Not oxidising.

9.2 Other information
Surface tension (N/m): Not determined
Corrosion to metals: Not corrosive

SECTION 10: Stability and reactivity

10.1 Reactivity
No reactivity hazards known under normal storage and use conditions.

10.2 Chemical stability
Stable under normal storage and use conditions.

10.3 Possibility of hazardous reactions
No hazardous reactions known under normal storage and use conditions.

10.4 Conditions to avoid
None known under normal storage and use conditions.

10.5 Incompatible materials
None known under normal use conditions.

10.6 Hazardous decomposition products
None known under normal storage and use conditions.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Mixture data: .

Relevant calculated ATE(s):
ATE - Oral (mg/kg): >2000

Substance data, where relevant and available, are listed below:.

Acute toxicity
Acute oral toxicity

Ingredient(s)	Endpoint	Value (mg/kg)	Species	Method	Exposure time (h)
n-alkyl dimethyl benzyl ammonium chloride	LD_{50}	304.5	Rat		
pine oil	LD_{50}	> 2000	Rat		

Acute dermal toxicity

Ingredient(s)	Endpoint	Value (mg/kg)	Species	Method	Exposure time (h)
n-alkyl dimethyl benzyl ammonium chloride	LD_{50}	3412	Rabbit	Method not given	
pine oil	LD_{50}	> 2000	Rat		

Acute inhalative toxicity

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
n-alkyl dimethyl benzyl ammonium chloride		No data available			
pine oil	LC_{50}	> 3.67	Rat		

Irritation and corrosivity
Skin irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
n-alkyl dimethyl benzyl ammonium chloride	Corrosive	Rabbit	Method not given	
pine oil	No data available			

Eye irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
n-alkyl dimethyl benzyl ammonium chloride	Severe damage		Method not given	
pine oil	No data available			

Respiratory tract irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
n-alkyl dimethyl benzyl ammonium chloride	No data available			
pine oil	No data available			

Sensitisation
Sensitisation by skin contact

Ingredient(s)	Result	Species	Method	Exposure time (h)
n-alkyl dimethyl benzyl ammonium chloride	Not sensitising	Guinea pig	OECD 406 (EU B.6) / Buehler test	
pine oil	No data available			

Sensitisation by inhalation

Ingredient(s)	Result	Species	Method	Exposure time
n-alkyl dimethyl benzyl ammonium chloride	No data available			
pine oil	No data available			

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
Mutagenicity

Ingredient(s)	Result (in-vitro)	Method (in-vitro)	Result (in-vivo)	Method (in-vivo)
n-alkyl dimethyl benzyl ammonium chloride	No evidence of genotoxicity, negative test results	OECD 471 (EU B.12/13) OECD	No evidence of genotoxicity, negative test results	OECD 474 (EU B.12)

		476 OECD 473		
pine oil	No data available		No data available	

Carcinogenicity

Ingredient(s)	Effect
n-alkyl dimethyl benzyl ammonium chloride	No data available
pine oil	No data available

Toxicity for reproduction

Ingredient(s)	Endpoint	Specific effect	Value (mg/kg bw/d)	Species	Method	Exposure time	Remarks and other effects reported
n-alkyl dimethyl benzyl ammonium chloride			No data available				
pine oil			No data available				

Repeated dose toxicity

Sub-acute or sub-chronic oral toxicity

Ingredient(s)	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time (days)	Specific effects and organs affected
n-alkyl dimethyl benzyl ammonium chloride		No data available				
pine oil		No data available				

Sub-chronic dermal toxicity

Ingredient(s)	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time (days)	Specific effects and organs affected
n-alkyl dimethyl benzyl ammonium chloride		No data available				
pine oil		No data available				

Sub-chronic inhalation toxicity

Ingredient(s)	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time (days)	Specific effects and organs affected
n-alkyl dimethyl benzyl ammonium chloride		No data available				
pine oil		No data available				

Chronic toxicity

Ingredient(s)	Exposure route	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time	Specific effects and organs affected	Remark
n-alkyl dimethyl benzyl ammonium chloride			No data available					
pine oil			No data available					

STOT-single exposure

Ingredient(s)	Affected organ(s)
n-alkyl dimethyl benzyl ammonium chloride	No data available
pine oil	No data available

STOT-repeated exposure

Ingredient(s)	Affected organ(s)
n-alkyl dimethyl benzyl ammonium chloride	No data available
pine oil	No data available

Aspiration hazard

Substances with an aspiration hazard (H304), if any, are listed in section 3.

Potential adverse health effects and symptoms

Effects and symptoms related to the product, if any, are listed in subsection 4.2.

SECTION 12: Ecological information

12.1 Toxicity

No data is available on the mixture .

Substance data, where relevant and available, are listed below:

Aquatic short-term toxicity

Aquatic short-term toxicity - fish

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
n-alkyl dimethyl benzyl ammonium chloride	LC_{50}	0.515	*Fish*	Method not given	96
pine oil	LC_{50}	18.4	*Oncorhynchus mykiss*	Method not given	

Aquatic short-term toxicity - crustacea

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
n-alkyl dimethyl benzyl ammonium chloride	EC_{50}	0.016	*Daphnia*	Method not given	48
pine oil	EC_{50}	24.5	*Daphnia magna Straus*	Method not given	

Aquatic short-term toxicity - algae

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
n-alkyl dimethyl benzyl ammonium chloride	EC_{50}	0.02	*Selenastrum capricornutum*	OECD 201 (EU C.3)	72
pine oil		No data available			

Aquatic short-term toxicity - marine species

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (days)
n-alkyl dimethyl benzyl ammonium chloride		No data available			
pine oil		No data available			

Impact on sewage plants - toxicity to bacteria

Ingredient(s)	Endpoint	Value (mg/l)	Inoculum	Method	Exposure time
n-alkyl dimethyl benzyl ammonium chloride	EC_{20}	5	*Activated sludge*	OECD 209	0.5 hour(s)
pine oil		No data available			

Aquatic long-term toxicity

Aquatic long-term toxicity - fish

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time	Effects observed
n-alkyl dimethyl benzyl ammonium chloride		No data available				
pine oil		No data available				

Aquatic long-term toxicity - crustacea

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time	Effects observed
n-alkyl dimethyl benzyl ammonium chloride	NOEC	0.025	*Daphnia magna*	OECD 211	21 day(s)	
pine oil		No data available				

Aquatic toxicity to other aquatic benthic organisms, including sediment-dwelling organisms, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw sediment)	Species	Method	Exposure time (days)	Effects observed
n-alkyl dimethyl benzyl ammonium chloride		No data available				

Terrestrial toxicity

Terrestrial toxicity - soil invertebrates, including earthworms, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
n-alkyl dimethyl benzyl ammonium chloride		No data available				

Terrestrial toxicity - plants, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
n-alkyl dimethyl benzyl ammonium chloride		No data available				

Terrestrial toxicity - birds, if available:

Ingredient(s)	Endpoint	Value	Species	Method	Exposure time (days)	Effects observed
n-alkyl dimethyl benzyl ammonium chloride		No data available				

Terrestrial toxicity - beneficial insects, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
n-alkyl dimethyl benzyl ammonium chloride		No data available				

Terrestrial toxicity - soil bacteria, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
n-alkyl dimethyl benzyl ammonium chloride		No data available				

12.2 Persistence and degradability

Abiotic degradation

Abiotic degradation - photodegradation in air, if available:

Ingredient(s)	Half-life time	Method	Evaluation	Remark
n-alkyl dimethyl benzyl ammonium chloride	No data available			

Abiotic degradation - hydrolysis, if available:

Ingredient(s)	Half-life time in fresh water	Method	Evaluation	Remark
n-alkyl dimethyl benzyl ammonium chloride	No data available			

Abiotic degradation - other processes, if available:

Ingredient(s)	Type	Half-life time	Method	Evaluation	Remark
n-alkyl dimethyl benzyl ammonium chloride		No data available			

Biodegradation

Ready biodegradability - aerobic conditions

Ingredient(s)	Inoculum	Analytical method	DT_{50}	Method	Evaluation
n-alkyl dimethyl benzyl ammonium chloride		Oxygen depletion	> 60%	Read across	Readily biodegradable
pine oil					Not readily biodegradable.

Ready biodegradability - anaerobic and marine conditions, if available:

Ingredient(s)	Medium & Type	Analytical method	DT_{50}	Method	Evaluation
n-alkyl dimethyl benzyl ammonium chloride					No data available

Degradation in relevant environmental compartments, if available:

Ingredient(s)	Medium & Type	Analytical method	DT_{50}	Method	Evaluation
n-alkyl dimethyl benzyl ammonium chloride					No data available

12.3 Bioaccumulative potential

Partition coefficient n-octanol/water (log Kow)

Ingredient(s)	Value	Method	Evaluation	Remark
n-alkyl dimethyl benzyl ammonium chloride	0.004	Method not given	No bioaccumulation expected	at 20 °C
pine oil	No data available			

Bioconcentration factor (BCF)

Ingredient(s)	Value	Species	Method	Evaluation	Remark
n-alkyl dimethyl benzyl ammonium chloride	79	*Lepomis macrochirus*		Low potential for bioaccumulation	
pine oil	No data available				

12.4 Mobility in soil
Adsorption/Desorption to soil or sediment

Ingredient(s)	Adsorption coefficient Log Koc	Desorption coefficient Log Koc(des)	Method	Soil/sediment type	Evaluation
n-alkyl dimethyl benzyl ammonium chloride	No data available				
pine oil	No data available				

12.5 Other adverse effects
No other adverse effects known.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Waste from residues / unused products: The concentrated contents or contaminated packaging should be disposed of by a certified handler or according to the site permit. Release of waste to sewers is discouraged. The cleaned packaging material is suitable for energy recovery or recycling in line with local legislation.

Empty packaging
Recommendation: Dispose of observing national or local regulations.
Suitable cleaning agents: Water, if necessary with cleaning agent.

SECTION 14: Transport information

ADG, IMO/IMDG, ICAO/IATA
14.1 UN number or ID number: Non-dangerous goods
14.2 UN proper shipping name: Non-dangerous goods
14.3 Transport hazard class(es): Non-dangerous goods
14.4 Packing group: Non-dangerous goods
14.5 Environmental hazards: Non-dangerous goods
14.6 Special precautions for user: Non-dangerous goods
14.7 Maritime transport in bulk according to IMO instruments: Non-dangerous goods

Other relevant information:
Hazchem code: None allocated

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

HSNO Approval Number HSR002530.
Group standard Cleaning Products (Subsidiary Hazard) Group Standard 2020
Inventory Listing(s) New Zealand: NZIoC (New Zealand Inventory of Chemicals)
All components are listed on the NZIoC inventory, or are exempt

HSNO Classification 6.5B - Contact sensitisers
9.1C - Harmful in the aquatic environment

SECTION 16: Other information

The information in this document is based on our best present knowledge. However, it does not constitute a guarantee for any specific product features and does not establish a legally binding contract

SDS code: MS32000277 **Version:** 01.1 **Revision:** 2023-07-18

Abbreviations and acronyms:
- ATE - Acute Toxicity Estimate
- AUH - Non GHS hazard statement
- DNEL - Derived No Effect Limit
- EC No. - European Community Number
- EC50 - effective concentration, 50%
- LC50 - Lethal Concentration, 50% / Median Lethal Concentration
- LD50 - Lethal Dose, 50% / Median Lethal dose

- NOAEL - No observed adverse effect level
- NOEL - No observed effect level
- OECD - Organisation for Economic Cooperation and Development
- PNEC - Predicted No Effect Concentration
- STOT-RE - Specific target organ toxicity (repeated exposure)
- STOT-SE - Specific target organ toxicity (single exposure)

End of Safety Data Sheet