

## Spectrum

Revision: 2024-10-22

Version: 01.0

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

**Trade name:** Spectrum

Product identifier: n-alkyl dimethyl benzyl ammonium chloride, EC number: 270-325-2, CAS number: 68424-85-1

#### 1.2 Recommended use and restrictions on use

See product label.

For professional and industrial use only.

#### 1.3 Details of the supplier of the safety data sheet

SOLENIS VIETNAM COMPANY LIMITED

#### Contact details

Level 4&5, M-Building, Lot C7B-02A, Block A, No.9 Street 8, Zone Saigon South New Urban Area, Tan Phu Ward, District 7, Ho Chi Minh City, VIETNAM

Tel. 0314996293

#### 1.4 Emergency telephone number

In case of medical emergency, please seek professional medical advice.

### SECTION 2: Composition/information on ingredients

#### 2.1 Substances / Mixtures

Ingredient(s)	CAS number	EC number	Classification	Weight percent
n-alkyl dimethyl benzyl ammonium chloride	68424-85-1	270-325-2	Skin corrosion, Category 1B (H314) Acute toxicity - Oral, Category 4 (H302) Acute toxicity - Dermal, Category 4 (H312) Acute aquatic toxicity, Category 1 M=1 (H400) Chronic aquatic toxicity, Category 1 M=1 (H410) Serious eye damage, Category 1 (H318)	10-20

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

ATE, if available, are listed in section 11.

### SECTION 3: Hazards identification

#### 3.1 Classification of the substance or mixture

Skin corrosion, Category 1B

Acute toxicity, oral, Category 5

Acute aquatic toxicity, Category 1

Chronic aquatic toxicity, Category 2

Serious eye damage, Category 1

#### 3.2 Label elements



**Signal word:** Danger.

#### Hazard statements:

H314 - Causes severe skin burns and eye damage.

H303 - May be harmful if swallowed.

H410 - Very toxic to aquatic life with long lasting effects.

#### Precautionary statements:

P280 - Wear protective gloves, protective clothing and eye or face protection.

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

## Spectrum

Continue rinsing.  
P310 - Immediately call a POISON CENTRE, doctor or physician.

**3.3 Other hazards**

No other hazards known. Exposure and appropriate engineering controls are specified in subsection 8.2 exposure controls.

**3.4 Classification diluted product**

Recommended maximum concentration (% w/w): 0.63

Acute aquatic toxicity, Category 3

**3.5 Label elements diluted product****Hazard statements:**

H402 - Harmful to aquatic life.

**SECTION 4: First aid measures****4.1 Description of first aid measures****General Information:**

If unconscious place in recovery position and seek medical advice. Provide fresh air. If breathing is irregular or stopped, administer artificial respiration. No mouth-to-mouth or mouth-to-nose resuscitation. Use Ambu bag or ventilator.

**Inhalation:**

Get medical attention or advice if you feel unwell.

**Skin contact:**

Wash skin with plenty of lukewarm, gently flowing water for at least 30 minutes. Take off immediately all contaminated clothing and wash it before reuse. Immediately call a POISON CENTRE, doctor or physician.

**Eye contact:**

Hold eyelids apart and flush eyes with plenty of lukewarm water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE, doctor or physician.

**Ingestion:**

Rinse mouth. Immediately drink 1 glass of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Keep at rest. Immediately call a POISON CENTRE, doctor or physician.

**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:**

Causes severe burns.

**Eye contact:**

Causes severe or permanent damage.

**Ingestion:**

Ingestion will lead to a strong caustic effect on mouth and throat and to the danger of perforation of oesophagus and stomach.

**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.

**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.

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

Wear suitable protective clothing, gloves and eye/face protection.

**6.2 Environmental precautions**

Do not allow to enter drainage system, surface or ground water. Do not allow to enter the ground/soil. Dilute with plenty of water. 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**

Absorb with liquid-binding material (sand, diatomite, universal binders).

**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.

#### Advice 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 advised by Diversey. Wash hands before breaks and at the end of workday. Wash face, hands and any exposed skin thoroughly after handling. Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. Use personal protective equipment as required. Avoid contact with skin and eyes. 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 or goggles (EN 16321 / EN 166). The use of a full-face shield or other full-face protection is strongly recommended when handling open containers or if splashes may occur.

##### Hand protection:

Chemical-resistant protective gloves (EN 374). 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:  $\geq 480$  min Material thickness:  $\geq 0.7$  mm

Suggested gloves for protection against splashes: Material: nitrile rubber Penetration time:  $\geq 30$  min Material thickness:  $\geq 0.4$  mm

In consultation with the supplier of protective gloves a different type providing similar protection may be chosen.

##### Body protection:

Wear chemical-resistant clothing and boots in case direct dermal exposure and/or splashes may occur (EN 14605).

##### 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):** 0.63

**Appropriate engineering controls:** No special requirements under normal use conditions.

**Appropriate organisational controls:** No special requirements under normal use conditions.

#### Personal protective equipment

## Spectrum

<b>Eye / face protection:</b>	No special requirements under normal use conditions.
<b>Hand protection:</b>	No special requirements under normal use conditions.
<b>Body protection:</b>	No special requirements under normal use conditions.
<b>Respiratory protection:</b>	No special requirements under normal use conditions.
<b>Environmental exposure controls:</b>	No special requirements under normal use conditions.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

	Method / remark
<b>Physical state:</b> Liquid	
<b>Colour:</b> Clear , Colourless	
<b>Odour:</b> Product specific	
<b>Odour threshold:</b> Not applicable	
<b>pH:</b> ≈ 8 (neat)	ISO 4316
<b>Melting point/freezing point (°C):</b> Not determined	Not relevant to classification of this product
<b>Initial boiling point and boiling range (°C):</b> Not determined	

**Flammability (liquid):** Not flammable.  
**Flash point (°C):** Not applicable.  
**Sustained combustion:** Not applicable.  
*( UN Manual of Tests and Criteria, section 32, L.2 )*

<b>Evaporation rate:</b> Not determined	Not relevant to classification of this product
<b>Flammability (solid, gas):</b> Not applicable to liquids	
<b>Lower and upper explosion limit/flammability limit (%):</b> Not determined	
<b>Vapour pressure:</b> Not determined	
<b>Relative density:</b> ≈ 0.99 (20 °C)	OECD 109 (EU A.3)
<b>Relative vapour density:</b> Not determined.	Not relevant to classification of this product
<b>Particle characteristics:</b> No data available.	Not applicable to liquids.
<b>Solubility in / Miscibility with water:</b> Fully miscible	
<b>Partition coefficient: n-octanol/water</b> No information available.	

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

**Autoignition temperature:** Not determined  
**Decomposition temperature:** Not applicable.  
**Kinematic 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): 3900

ATE - Dermal (mg/kg): >5000

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 <sub>50</sub>	304.5	Rat		

Acute dermal toxicity

Ingredient(s)	Endpoint	Value (mg/kg)	Species	Method	Exposure time (h)
n-alkyl dimethyl benzyl ammonium chloride	LD <sub>50</sub>	3412	Rabbit	Method not given	

Acute inhalative toxicity

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

## 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	

Eye irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
n-alkyl dimethyl benzyl ammonium chloride	Severe damage		Method not given	

Respiratory tract irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
n-alkyl dimethyl benzyl ammonium chloride	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	

Sensitisation by inhalation

Ingredient(s)	Result	Species	Method	Exposure time
n-alkyl dimethyl benzyl ammonium chloride	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 476 OECD 473	No evidence of genotoxicity, negative test results	OECD 474 (EU B.12)

Carcinogenicity

Ingredient(s)	Effect
n-alkyl dimethyl benzyl ammonium chloride	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
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## Spectrum

n-alkyl dimethyl benzyl ammonium chloride			No data available				
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**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				

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				

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				

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					

STOT-single exposure

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

STOT-repeated exposure

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

**Aspiration hazard**

Substances with an aspiration hazard (H304), if any, are listed in section 3. If relevant, see section 9 for dynamic viscosity and relative density of the product.

**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**

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 <sub>50</sub>	0.515	Fish	Method not given	96

Aquatic short-term toxicity - crustacea

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
n-alkyl dimethyl benzyl ammonium chloride	EC <sub>50</sub>	0.016	<i>Daphnia</i>	Method not given	48

Aquatic short-term toxicity - algae

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
n-alkyl dimethyl benzyl ammonium chloride	EC <sub>50</sub>	0.02	<i>Selenastrum capricornutum</i>	OECD 201 (EU C.3)	72

Aquatic short-term toxicity - marine species

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (days)

## Spectrum

n-alkyl dimethyl benzyl ammonium chloride		No data available		
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Impact on sewage plants - toxicity to bacteria

Ingredient(s)	Endpoint	Value (mg/l)	Inoculum	Method	Exposure time
n-alkyl dimethyl benzyl ammonium chloride	EC <sub>20</sub>	5	Activated sludge	OECD 209	0.5 hour(s)

**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				

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	<i>Daphnia magna</i>	OECD 211	21 day(s)	

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			

## Spectrum

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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 <sub>50</sub>	Method	Evaluation
n-alkyl dimethyl benzyl ammonium chloride		Oxygen depletion	> 60%	Read across	Readily biodegradable

Ready biodegradability - anaerobic and marine conditions, if available:

Ingredient(s)	Medium & Type	Analytical method	DT <sub>50</sub>	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 <sub>50</sub>	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

Bioconcentration factor (BCF)

Ingredient(s)	Value	Species	Method	Evaluation	Remark
n-alkyl dimethyl benzyl ammonium chloride	79	<i>Lepomis macrochirus</i>		Low potential for bioaccumulation	

**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				

**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:

Suitable cleaning agents:

Dispose of observing national or local regulations.

Water, if necessary with cleaning agent.

**SECTION 14: Transport information****Land transport, Sea transport (IMDG), Air transport (ICAO-TI / IATA-DGR)**

14.1 UN number: 1760

14.2 UN proper shipping name:

Corrosive liquid, n.o.s. ( alkyl dimethyl benzyl ammonium chloride )

**14.3 Transport hazard class(es):**

Transport hazard class (and subsidiary risks): 8

**14.4 Packing group:** III**14.5 Environmental hazards:**

Environmentally hazardous: Yes

Marine pollutant: Yes

**14.6 Special precautions for user:** None known.**14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code:** The product is not transported in bulk tankers.**Other relevant information:****IMO/IMDG**

EmS: F-A, S-B

Transport regulations include special provisions for certain classes of dangerous goods packed in limited quantities.

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations**

- Decree 108/2008/NP-CP Circular No.: 04/2012/TT-BCT Regulations on the Classification and Labeling of Chemicals

**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:** MS4800132**Version:** 01.0**Revision:** 2024-10-22**Abbreviations and acronyms:**

- DNEL - Derived No Effect Limit
- PNEC - Predicted No Effect Concentration
- ATE - Acute Toxicity Estimate
- LD50 - Lethal Dose, 50% / Median Lethal dose
- LC50 - Lethal Concentration, 50% / Median Lethal Concentration
- EC50 - effective concentration, 50%
- NOEL - No observed effect level
- NOAEL - No observed adverse effect level
- STOT-RE - Specific target organ toxicity (repeated exposure)
- STOT-SE - Specific target organ toxicity (single exposure)
- OECD - Organisation for Economic Cooperation and Development
- H302 - Harmful if swallowed.
- H312 - Harmful in contact with skin.
- H314 - Causes severe skin burns and eye damage.
- H400 - Very toxic to aquatic life.
- H410 - Very toxic to aquatic life with long lasting effects.
- H318 - Causes serious eye damage.

**End of Safety Data Sheet**