

# Taian Green Industry Co., Ltd.

Tel: 86-156-6659-0861

E-mail: [greenindustry@163.com](mailto:greenindustry@163.com)

Web: [www.taiangreenindustry.com](http://www.taiangreenindustry.com)

## Safety Data Sheet

Didecyldimonium chloride

(According to Regulation (EC) No. 1907/2006)

Version: 1.0-English

Preparation date: 2018-10-15

Revision date: 2018-10-15

### Section 1 - Chemical Product and Company Identification

#### 1.1 Product identifier:

Product name: Didecyldimonium chloride

Trade name: DDAC/D1021

CAS No. : 7173-51-5

#### 1.2 Uses of the chemical product:

Special use surfactant

#### 1.3 Supplier identifier:

Company name: Taian Green Industry Co.,Ltd

Address: Room921, Building2, Dream Valley E-commerce Industrial Park,  
Lingshan Street, Taishan District, Taian City, Shandong Province,  
China

Postcode: 271000

E-mail: [greenindustry@163.com](mailto:greenindustry@163.com)

Telephone: +86 156 6659 0861

#### 1.4 Emergency telephone:

Emergency Phone #: +86 156 6659 0861

### Section 2 - Hazards identification

#### 2.1 Classification of the substance or mixture

Flammable liquids, Category 3

Acute toxicity, Category 5, Oral

Skin corrosion/irritation, Sub-category 1C

Serious eye damage/eye irritation, Category 1

Acute aquatic toxicity, Category 1

Chronic aquatic toxicity, Category 1

#### 2.2 Label elements

Labelling according Regulation (EC) No 1272/2008



Pictogram:

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Signal word: Danger

Hazard statement(s)

H226 Flammable liquid and vapour.

H303 May be harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H410 Very toxic to aquatic life with long lasting effects

Precautionary statement(s)

Prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition source. No smoking.

P264 Wash skin thoroughly after handling.

P280 Wear protective gloves/ protective

Response:

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

P305 + P351 + P338 + P310 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/doctor.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to Extinguish.

## 2.3 Other hazards

No data available

## Section 3 - Composition/information on ingredients

Pure substance/mixture :Mixture

Hazardous components

Chemical name	CAS No.	GHS Classification	Concentration(%)
Didecyldimonium chloride	7173-51-5	Acute Tox. 5; H303 Skin Corr./Irrit. 1C; H314 Eye Dam./Irrit. 1; H318 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute): 1	80
Ethanol	64-17-5	Flam. Liq. 2; H225 Eye Dam./Irrit. 2A; H319	10
Water	7732-18-5		10

For the full text of the H-Statements mentioned in this Section, see Section 16.

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## Section 4 - First aid measures

General advice :

Immediate medical attention is required.

Move out of dangerous area.

Show this safety data sheet to the doctor in attendance.

Inhalation :

If breathed in, move person into fresh air.

Consult a physician after significant exposure.

Skin contact :

Take off contaminated clothing and shoes immediately.

Wash the skin immediately with soap and water.

Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.

Eye contact :

Rinse with plenty of water.

Get medical attention immediately.

Continue to rinse during transport.

Remove contact lenses.

Protect unharmed eye.

Keep eye wide open while rinsing.

Small amounts splashed into eyes can cause irreversible tissue damage and blindness.

Ingestion :

Clean mouth with water and drink afterwards plenty of water.

Never give anything by mouth to an unconscious person.

Take victim immediately to hospital.

Do not induce vomiting!

May cause chemical burns in mouth and throat

Notes to physician Symptoms :

The symptoms and effects are as expected from the hazards as shown in section 2. No specific product related symptoms are known.

Treatment :

Treat symptomatically

## Section 5 - Firefighting measures

Suitable extinguishing media : Alcohol-resistant foam Carbon dioxide (CO<sub>2</sub>) Dry chemical

Unsuitable extinguishing media : High volume water jet

Specific hazards during: Water spray may be ineffective unless used by experienced

Firefighting / Specific hazards : Firefighters

Arising from the chemical : Do not allow run-off from fire fighting to enter drains or water courses.

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Combustion products :

Carbon oxides

Nitrogen oxides (NO<sub>x</sub>)

Halogenated compounds

Hydrogen chloride

Special protective equipment :

In the event of fire, wear self-contained breathing apparatus. for firefighters

Further information :

Use water spray to cool unopened containers.

Collect contaminated fire extinguishing water separately.

This must not be discharged into drains.

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

For safety reasons in case of fire, cans should be stored separately in closed containments.

## Section 6 - Accidental release measures

### **Personal precautions, protective equipment and emergency procedures**

Personal precautions :

Use personal protective equipment.

Wear respiratory protection.

Ensure adequate ventilation.

Remove all sources of ignition.

Beware of vapours accumulating to form explosive concentrations.

Vapours can accumulate in low areas

Emergency measures on :

Evacuate personnel to safe areas.

Accidental release :

Equipment may intervene.

Prevent unauthorised persons entering the zone.

Environment precaution :

Prevent product from entering drains.

If the product contaminates rivers and lakes or drains inform respective authorities

Methods for cleaning up / Methods for containment :

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

Reference to other sections : For disposal considerations see section 13.

For personal protection see section 8

## Section 7 - Handling and storage

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## Handling

Advice on safe handling : For personal protection see section 8. Avoid formation of aerosol. Do not breathe vapours or spray mist. Smoking, eating and drinking should be prohibited in the application area. Container may be opened only under exhaust ventilation hood. Open drum carefully as content may be under pressure. Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : Avoid formation of aerosol. Keep away from source of ignition-No smoking .No sparking tools should be used .Take measures to prevent the build up of electrostatic charge.

## Storage

Requirements for storage : No smoking. Keep container tightly closed in a dry and well-ventilated place.

Areas and containers : Electrical installations /working materials must comply with the technological safety standards.

Other data : No decomposition if stored and applied as directed.

## Section 8 - Exposure controls/personal protection

### Components with workplace control parameters

Components	CAS No.	Value	Control parameters	Update	Basis	Form of exposure
Ethanol	64-17-5	TWA	200ppm	2013-03-1	ACGIH	
	Further information	CNS impair: Central Nervous System impairment URT irr: Upper Respiratory Tract irritation eye irr: Eye irritation BEI: Substances for which there is a Biological Exposure Index or Indices (see BEI® section) A4: Not classifiable as a human carcinogen				
		STEL	400ppm	2013-03-1	ACGIH	
	Further information	CNS impair: Central Nervous System impairment URT irr: Upper Respiratory Tract irritation eye irr: Eye irritation BEI: Substances for which there is a Biological Exposure Index or Indices (see BEI® section) A4: Not classifiable as a human carcinogen				
		TWA	400ppm 980mg/m3	2013-10-8	NIOSH REL	
		ST	500ppm 1225mg/m3	2013-10-8	NIOSH REL	
		TWA	400ppm 980mg/m3	1997-08-4	OSHA Z-1	
	Further information	(b): The value in mg/m3 is approximate.				
		TWA	400ppm	1989-01-19	OSHA	

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			980mg/m3		PO	
		STEL	500ppm 1225mg/m3	1989-01-19	OSHA PO	
		PEL	400ppm 980mg/m3	2014-11-26	CALPEL	
		STEL	500ppm 1225mg/m3	2014-11-26	CALPEL	
Hydrogen chloride	7647-01-0	C	2ppm	2007-01-1	ACGIH	
	Further information	URT irr: Upper Respiratory Tract irritation A4: Not classifiable as a human carcinogen				
		C	5ppm 7mg/m3	2013-10-8	NIOSH REL	
	Further information	Often used in an aqueous solution.				
		C	5ppm 7mg/m3	1989-01-19	OSHA Z-1	
	Further information	(b): The value in mg/m3 is approximate. (C): Ceiling limit is to be determined from breathing-zone air samples.				
		C	5ppm 7mg/m3	1989-01-19	OSHA PO	
		PEL	0.3ppm 0.45mg/m3	2014-11-26	CAI PEL	
		C	2ppm	2014-11-26	CAI PEL	

ACGIH: American Conference of Governmental Industrial Hygienists

BEI: Biological Exposure Index

MAC: Maximum Allowable Concentration

NIOSH: National Institute for Occupational Safety and Health

OEL: OEL: Occupational exposure limit.

STEL: Short term exposure limit

TWA: Time Weighted Average

Engineering controls

Effective exhaust ventilation system

Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

Wear full face mask supplied with: Combination filter: ABeKp.

In the case of vapour or aerosol formation use a respirator with an approved filter.

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Hand protection :Neoprene Nitrile rubber

Eye protection :Tightly fitting safety goggles. Wear face-shield and protective suit for abnormal processing problems

Skin and body protection :Protective suit

Hygiene measure :Handle in accordance with good industrial hygiene and safety practice.

When using do not eat or drink. When using do not smoke.

Environmental exposure controls

General advice : Prevent product from entering drains.If the product contaminates rivers and lakes or drains inform respective authorities.

## Section 9 - Physical and chemical properties

Appearance

Form : liquid

Colour : light yellow

Odour : irritating

Odour Threshold : No data available

Safety data

pH : 6 - 9

Melting point/freezing point : No data available

Boiling point/boiling range : No data available

Flash point : 31 °C

Evaporation rate : No data available

Flammability (solid, gas) : Not applicable

Flammability (liquids) : Flammable liquid and vapour.

Lower explosion limit : No data available

Upper explosion limit : No data available

Vapour pressure : No data available

Relative vapour density : No data available

Relative density : No data available

Water solubility : dispersible

Solubility in other solvents : No data available

Partition coefficient : n octanol/water : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity, dynamic : No data available

Viscosity, kinematic : Not applicable

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

## Section 10 - Stability and reactivity

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Conditions to avoid : Heat, flames and sparks.

Materials to avoid : None known.

Hazardous decomposition products : Halogenated compounds Hydrogen chloride

Thermal decomposition : No data available

Reactivity : Stable under normal conditions.

Chemical stability : Stable under recommended storage conditions.

Hazardous reactions : No dangerous reaction known under conditions of normal use

## Section 11 - Toxicological information

Product information:

Potential Health Effects

Inhalation : Inhalation of aerosols may cause irritation to mucous membranes.

Thermal decomposition can lead to release of irritating gases and vapours.

Skin : Symptoms may be delayed.

Causes severe skin burns.

Eyes : Causes serious eye damage.

Ingestion : Causes burns. May be harmful if swallowed.

Aggravated Medical Condition : None known

Symptoms of Overexposure : The symptoms and effects are as expected from the hazards as shown in section 2. No specific product related symptoms are known.

Toxicology Assessment

Further information : Solvents may degrease the skin.

Toxicology data for the components :

Toxicology Assessment

Component: 2-Propanol

CMR effects : Mutagenicity: Not mutagenic in Ames Test

Test Result

Component: Di(hydrogenated tallow)benzyl- methylammonium chloride

Acute oral toxicity : LD50: > 2,000 mg/kg

Species: Rat

Method: OECD Test Guideline 401

Skin irritation : Species: Rabbit

Result: Corrosive, category 1C - where responses occur after exposures between 1 hour and 4 hours and observations up to 14 days.

Method: OECD Test Guideline 404

## Section 12 - Ecological information

Product information:

Ecotoxicology Assessment

Additional ecological : An environmental hazard cannot be excluded in the event of information unprofessional handling or disposal.



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Very toxic to aquatic life with long lasting effects.

Components:

Test result

Component: Di(hydrogenated tallow)benzyl- methylammonium chloride

Ecotoxicity effects

Toxicity to fish : LC50: > 1 - 10 mg/l

Exposure time: 96 h

Species: Danio rerio (zebra fish)

Method: OECD Test Guideline 203

Toxicity to daphnia and other : EC50: > 0.1 - 1 mg/l

aquatic invertebrates Exposure time: 48 h

Species: Daphnia magna (Water flea)

Method: OECD Test Guideline 202

Toxicity to algae : EC50: > 1 - 10 mg/l

Exposure time: 72 h

Species: Pseudokirchneriella subcapitata (green algae)

Method: OECD Test Guideline 201

NOEC: > 0.1 - 1 mg/l

Exposure time: 72 h

Species: Pseudokirchneriella subcapitata (green algae)

Method: OECD Test Guideline 201

M-Factor (Acute) : 1

N-Elimination information (persistence and degradability)

Bioaccumulation : Bioaccumulation is unlikely.

Mobility : No data available

Biodegradability : Result: Not readily biodegradable.

Method : OECD Test Guideline 301F

Further information on ecology

Biochemical Oxygen : No data available

Demand (BOD)

Component: 2-Propanol

Ecotoxicity effects

Toxicity to fish : LC50: 14,200 mg/l

Exposure time: 96 h

Species: Pimephales promelas (fathead minnow)

Test Type: flow-through test

Literature data

Toxicity to daphnia and other : EC50: 5,012 mg/l

aquatic invertebrates Exposure time: 48 h

Species: Ceriodaphnia dubia (water flea)

Test Type: static test

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Literature data

Toxicity to algae : ErC50: 275 mg/l

Exposure time: 72 h

Species: *Chlorella vulgaris* (Fresh water algae)

Method: OECD Test Guideline 201

Literature data

Toxicity to daphnia and other : NOEC: 9.6 mg/l

aquatic invertebrates Exposure time: 9 d

(Chronic toxicity) Species: *Daphnia magna* (Water flea)

Test Type: semi-static test

Literature data.

Elimination information (persistence and degradability)

Bioaccumulation : Bioaccumulation is unlikely.

Mobility : Potential for mobility in soil is high., The product will be dispersed amongst the various environmental compartments (soil/ water/ air).

Biodegradability : Result: Readily biodegradable.

Literature data.

Further information on ecology

Biochemical Oxygen : 1.50 mg O<sub>2</sub>/mg

Demand (BOD)Method: Calculation method

## Section 13 - Disposal considerations

Product : The product should not be allowed to enter drains, water courses or the soil.

Do not contaminate ponds, waterways or ditches with chemical or used container.

Hazardous waste

Dispose of contents/container in accordance with local regulation.

Contaminated packaging : Empty remaining contents.

Dispose of as unused product.

Do not burn, or use a cutting torch on, the empty drum.

## Section 14 - Transport information

International Regulations

IATA-DGR

UN/ID No. : UN 2924

Proper shipping name : Flammable liquid, corrosive, n.o.s.

(Ethanol, Quaternary alkyl ammonium chloride)

Class : 3

Subsidiary risk : 8

Packing group : III

Labels : 3 (8)

Packing instruction (cargo aircraft) : 365

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Packing instruction : 354

(passenger aircraft)

Packing instruction (LQ) : Y342

Environmentally hazardous : yes

IMDG-Code

UN number : UN 2924

Proper shipping name : FLAMMABLE LIQUID, CORROSIVE, N.O.S.

(2-Propanol, Quaternary alkyl ammonium chloride)

Class : 3

Subsidiary risk : 8

Packing group : III

Labels : 3 (8)

EmS Code : F-E, S-C

Marine pollutant : yes (Quaternary alkyl ammonium chloride)

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

## Section 15 - Regulatory information

Notification status

DSL :YES All components of this product are on the Canadian DSL

AICS :YES. On the inventory, or in compliance with the inventory

NZIoC :YES. On the inventory, or in compliance with the inventory

ENCS :NO. Not in compliance with the inventory

ISHL :NO. Not in compliance with the inventory

KECL :YES. On the inventory, or in compliance with the inventory

PICCS :YES. On the inventory, or in compliance with the inventory

IECSC :YES. On the inventory, or in compliance with the inventory

TCSI :YES. On the inventory, or in compliance with the inventory

TSCA :YES. All chemical substances in this product are either listed on the TSCA

Inventory or in compliance with a TSCA Inventory exemption.

For explanation of abbreviation see section 16.

Further information : none

## Section 16 - Further information

Full text of H-Statements

H225 : Highly flammable liquid and vapour.

H303 : May be harmful if swallowed

H314 : Causes severe skin burns and eye damage.

H318 : Causes serious eye damage.

H319 : Causes serious eye irritation.

H400 : Very toxic to aquatic life.

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H410 : Very toxic to aquatic life with long lasting effects

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

CAL PEL : California permissible exposure limits for chemical contaminants (Title 8, Article 107)

NIOSH REL : USA. NIOSH Recommended Exposure Limits

OSHA P0 : USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000

OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants

ACGIH / STEL : Short-term exposure limit

ACGIH / C : Ceiling limit

CAL PEL / PEL : Permissible exposure limit

CAL PEL / C : Ceiling

NIOSH REL / C : Ceiling value not be exceeded at any time.

OSHA P0 / TWA : 8-hour time weighted average

OSHA P0 / C : Ceiling limit

OSHA Z-1 / TWA : 8-hour time weighted average

OSHA Z-1 / C : Ceiling

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO -International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL -Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI -Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 -Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and

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Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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