

Safety Data Sheet

VERSENE™ 100 Chelating Agent

Version 1.14

Revision Date: 11/11/2023

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : VERSENE™ 100 Chelating Agent

Recommended use of the chemical and restrictions on use

Recommended use : Chelating agent
Industrial Chemical

Supplier or Repackaging Details

Company : Univar Solutions USA
Address : 3075 Highland Pkwy Suite 200
Downers Grove, IL 60515
United States of America (USA)

Manufactured By : The Dow Chemical Company

Emergency telephone number:

Transport North America: CHEMTREC (1-800-424-9300)

CHEMTREC INTERNATIONAL Tel # 703-527-3887

Additional Information: : Responsible Party: Product Compliance Department

E-mail: SDSNA@univarsolutions.com

SDS Requests: 1-855-429-2661

Website: www.univarsolutions.com

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Corrosive to metals : Category 1

Acute toxicity (Inhalation) : Category 4

Skin irritation : Category 2

Serious eye damage : Category 1

Specific target organ toxicity
- repeated exposure : Category 2

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H290 May be corrosive to metals.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H332 Harmful if inhaled.
H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements : **Prevention:**
P234 Keep only in original container.

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P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ eye protection/ face protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

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.

P314 Get medical advice/ attention if you feel unwell.

P332 + P313 If skin irritation occurs: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

P390 Absorb spillage to prevent material damage.

Storage:

P406 Store in corrosive resistant container with a resistant inner liner.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

CAS-No.	Chemical name	Weight percent
64-02-8	Tetrasodium ethylenediaminetetraacetate	30 - 50
1310-73-2	Sodium hydroxide	1 - 2
5064-31-3	Glycine, N,N-bis(carboxymethyl)-, sodium salt (1:3)	0.1 - 1

Actual concentration is withheld as a trade secret

Any Concentration shown as a range is due to batch variation.

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : Consult a physician after significant exposure.
If unconscious, place in recovery position and seek medical advice.

In case of skin contact : If skin irritation persists, call a physician.
If on skin, rinse well with water.

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In case of eye contact	If on clothes, remove clothes. : Small amounts splashed into eyes can cause irreversible tissue damage and blindness. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Continue rinsing eyes during transport to hospital. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist. Take victim immediately to hospital.
If swallowed	: Keep respiratory tract clear. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	: Carbon dioxide (CO₂) Water mist Foam Dry chemical
Unsuitable extinguishing media	: High volume water jet
Specific hazards during fire-fighting	: Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	: Nitrogen oxides (NO_x) Carbon oxides
Further information	: 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.
Special protective equipment for firefighters	: Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	: Use personal protective equipment. Ensure adequate ventilation.
Environmental precautions	: Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	: Neutralise with acid. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

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Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- Advice on safe handling : Avoid formation of aerosol.
Do not breathe vapours/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Provide sufficient air exchange and/or exhaust in work rooms.
To avoid spills during handling keep bottle on a metal tray.
Dispose of rinse water in accordance with local and national regulations.
- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

CAS-No.	Components	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
1310-73-2	Sodium hydroxide	C	2 mg/m ³	ACGIH
		C	2 mg/m ³	NIOSH REL
		TWA	2 mg/m ³	OSHA Z-1
		C	2 mg/m ³	OSHA P0
		C	2 mg/m ³	CAL PEL

Personal protective equipment

- Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection. In the case of vapour formation use a respirator with an approved filter.
- Hand protection

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Remarks	: The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Eye protection	: Eye wash bottle with pure water Tightly fitting safety goggles Wear face-shield and protective suit for abnormal processing problems.
Skin and body protection	: Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Hygiene measures	: When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: liquid
Colour	: colourless, yellow
Odour	: mild
Odour Threshold	: No data available
pH	: 11.0 - 11.8 @ 1 %Aqueous solution
Freezing Point (Freezing Point)	: -25 °C (-13 °F)
Boiling Point (Boiling point/boiling range)	: 106 °C (223 °F) (1013 hPa)
Flash point	: Method: Pensky-Martens closed cup does not flash
Evaporation rate	: No data available
Flammability (solid, gas)	: No data available
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapour pressure	: No data available
Relative vapour density	: No data available
Relative density	: 1.31 @ 25 °C (77 °F) Reference substance: (water = 1)
Density	: No data available
Solubility(ies)	: No data available
Water solubility	: Miscible
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: No data available
Thermal decomposition	: No data available
Viscosity	
Viscosity, kinematic	: 20 mm ² /s @ 20 °C (68 °F)

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SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No dangerous reaction known under conditions of normal use.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No hazards to be specially mentioned.
Conditions to avoid	: Keep away from heat, flame, sparks and other ignition sources.
Incompatible materials	: Acids aluminum Halogenated compounds Metals organic nitro compounds Oxidizing agents Strong bases Zinc

SECTION 11. TOXICOLOGICAL INFORMATION**Acute toxicity****Product:**

Acute oral toxicity	: Assessment: The substance or mixture has no acute oral toxicity
Acute inhalation toxicity	: Assessment: The component/mixture is moderately toxic after short term inhalation.

Components:**64-02-8:**

Acute oral toxicity	: LD50 (Rat): 630 mg/kg Assessment: The component/mixture is moderately toxic after single ingestion.
Acute inhalation toxicity	: LC50 (Rat): 10 mg/l Test atmosphere: dust/mist Assessment: The component/mixture is moderately toxic after short term inhalation.
Acute dermal toxicity	: Remarks: No data available

5064-31-3:

Acute oral toxicity	: LD50 (Rat, male and female): 1,600 mg/kg Assessment: The component/mixture is toxic after single ingestion.
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Skin corrosion/irritation**Components:****64-02-8:**

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Species: Rabbit
Result: No skin irritation

1310-73-2:

Species: Rabbit
Result: Causes severe burns.

Serious eye damage/eye irritation

Components:

64-02-8:

Species: Rabbit
Result: Risk of serious damage to eyes.

1310-73-2:

Species: Rabbit
Result: Risk of serious damage to eyes.

5064-31-3:

Species: Rabbit
Result: Irritating to eyes.

Respiratory or skin sensitisation

Components:

64-02-8:

Species: Guinea pig
Result: Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity

Components:

64-02-8:

Germ cell mutagenicity - Assessment : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Carcinogenicity

Components:

64-02-8:

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

5064-31-3:

Species: Rat, (male and female)
Application Route: Oral
Exposure time: 104 wks
Dose: 0, 9.2, 92, 921 mg/kg/d
LOAEL: 92 mg/kg body weight

Result: evidence of carcinogenic activity
Remarks: Category 2

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Carcinogenicity - Assessment : Suspected human carcinogens
IARC Group 2B: Possibly carcinogenic to humans
5064-31-3 Glycine, N,N-bis(carboxymethyl)-, sodium salt (1:3)

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity**Components:****64-02-8:**

Teratogenicity - Assessment : No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

STOT - repeated exposure**Product:**

Assessment: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Aspiration toxicity**Components:****64-02-8:**

No aspiration toxicity classification

Further information**Product:**

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Components:****64-02-8:**

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 486 mg/l
Exposure time: 96 h
Test Type: static test

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Toxicity to daphnia and other aquatic invertebrates	: LC50 (Daphnia magna (Water flea)): 625 mg/l Exposure time: 24 h Test Type: static test
Toxicity to algae	: EC50 (Desmodesmus subspicatus (green algae)): 2.77 mg/l End point: Growth rate Exposure time: 72 h Test Type: static test
Acute aquatic toxicity- Assessment	: Toxic to aquatic life.
Chronic aquatic toxicity- Assessment	: Toxic to aquatic life with long lasting effects.
5064-31-3:	
Toxicity to algae	: EC50 (Desmodesmus subspicatus (green algae)): > 91.5 mg/l End point: Biomass Exposure time: 72 h Test Type: static test

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Product:

Ozone-Depletion Potential	: Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
Additional ecological information	: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	: Dispose of in accordance with all applicable local, state and federal regulations. For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Univar Solutions ChemCare: 1-800-637-7922
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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.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

DOT (Department of Transportation):

UN3267, CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S., (SODIUM HYDROXIDE, TETRASODIUM ETHYLENEDIAMINETETRAACETATE), 8, III

IATA (International Air Transport Association):

UN3267, CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S., (SODIUM HYDROXIDE, TETRASODIUM ETHYLENEDIAMINETETRAACETATE), 8, III

IMDG (International Maritime Dangerous Goods):

UN3267, CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S., (SODIUM HYDROXIDE, TETRASODIUM ETHYLENEDIAMINETETRAACETATE), 8, III, Marine Pollutant (TETRASODIUM ETHYLENEDIAMINETETRAACETATE)

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Sodium hydroxide	1310-73-2	1000	62503

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards

: Corrosive to metals
Skin corrosion or irritation
Serious eye damage or eye irritation
Acute toxicity (any route of exposure)
Specific target organ toxicity (single or repeated exposure)

SARA 302

: This material does not contain any components with a section 302 EHS TPQ.

SARA 313

: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

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This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

1310-73-2 Sodium hydroxide

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

1310-73-2 Sodium hydroxide

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

Massachusetts Right To Know

1310-73-2 Sodium hydroxide

5064-31-3 Glycine, N,N-bis(carboxymethyl)-, sodium salt (1:3)

Pennsylvania Right To Know

7732-18-5 Water

64-02-8 Tetrasodium ethylenediaminetetraacetate

2836-32-0 Acetic acid, 2-hydroxy-, sodium salt (1:1)

1310-73-2 Sodium hydroxide

California Prop 65 : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory

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

AICS : not determined

NZIoC : not determined

ENCS : not determined

KECI : not determined

PICCS : not determined

IECSC : not determined

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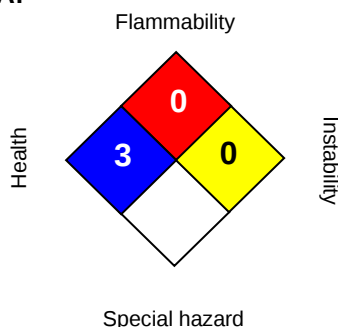
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SECTION 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	3*
FLAMMABILITY	0
PHYSICAL HAZARD	4

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made become available subsequently to the date hereof, we do not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Univar Solutions Product Compliance Department (1-855-429-2661) SDSNA@univarsolutions.com.

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Legacy SDS: : R0000894; 100000010727

Material number:

16207684, 16208481, 16208408, 16197856, 16198360, 16198359, 16200088, 16196598, 16196942, 16194976, 16178780, 16181127, 16175366, 16168722, 16153414, 16153157, 16157720, 16153828, 16154566, 16141235, 16140896, 16154920, 16138386, 16136505, 16136504, 16132451, 16126746, 55336, 719335, 55328, 748974, 89100, 105251, 554145, 614134, 53824, 88086, 55095, 103397, 55337, 554144, 106220, 56342, 554143, 71476, 71718, 583681, 73461

Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical	LOAEL	Lowest Observed Adverse Effect

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	Substances		Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%		