

HEDP 60%

Version number: 5.0

SECTION 1: Identification

1.1 Product identifier

Trade name **HEDP 60%**
ValuQuest 6000

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses
Corrosion inhibitors
Chelating agent
Textile auxiliary
Washing and cleaning product
Formulation additive

1.3 Details of the supplier of the safety data sheet

Valudor Products, LLC
179 Calle Magdalena Suite 100
Encinitas, California CA 92024
United States
Telephone: +1 (760) 635 8500
e-mail: info@valudor.com
Website: www.valudor.com

1.4 Emergency telephone number

Emergency information 800-535-5053 (Infotrac)
As above or nearest toxicological information center.

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Classification				
Section	Hazard class	Category	Hazard class and category	Hazard state-ment
A.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318
B.16	substance or mixture corrosive to metals	1	Met. Corr. 1	H290

For full text of abbreviations: see SECTION 16

2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Signal word danger

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Pictograms

GHS05



Hazard statements

H290 May be corrosive to metals.
H318 Causes serious eye damage.

Precautionary statements

P234 Keep only in original packaging.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
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.
P390 Absorb spillage to prevent material damage.
P406 Store in corrosion resistant container with a resistant inner liner.

Hazardous ingredients for labelling 1-hydroxyethane-1,1-diphosphonic acid

2.3 Other hazards

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of $\geq 0.1\%$.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture).

3.2 Mixtures

Description of the mixture

Hazardous ingredients				
Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
1-hydroxyethane-1,1-diphosphonic acid	CAS No 2809-21-4	58 – 62	Acute Tox. 4 / H302 Eye Dam. 1 / H318 Met. Corr. 1 / H290 cD / OSHA003	 

Remarks

For full text of H-phrases: see SECTION 16

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes

Self-protection of the first aider.

Remove victim out of the danger area.

Take off immediately all contaminated clothing.

In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation

Provide fresh air.

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

Following skin contact

After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap.

If skin irritation or rash occurs: Get medical advice/attention.

Following eye contact

Rinse immediately carefully and thoroughly with eye shower or water.

Remove contact lenses, if present and easy to do. Continue rinsing.

Get immediate medical advice/attention.

Following ingestion

Rinse mouth with water (only if the person is conscious).

Do NOT induce vomiting.

Get medical advice/attention.

Notes for the doctor

None.

4.2 Most important symptoms and effects, both acute and delayed

These information are not available.

4.3 Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

fire extinguishing powder, coordinate firefighting measures to the fire surroundings

Unsuitable extinguishing media

none

5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products: Section 10.

Substance or mixture corrosive to metals.

Hazardous combustion products

carbon monoxide (CO), carbon dioxide (CO₂), phosphorus oxides (PxOy)

5.3 Advice for firefighters

Keep containers cool with water spray.

In case of fire and/or explosion do not breathe fumes.

Coordinate firefighting measures to the fire surroundings.

Do not allow firefighting water to enter drains or water courses.

Collect contaminated firefighting water separately.

Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

chemical protection suit, self-contained breathing apparatus (SCBA)

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

Ventilate affected area.

Avoid inhaling sprayed product.

Do not get in eyes, on skin, or on clothing.

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

6.2 Environmental precautions

In case of formation of gases/vapors/mists suppress with water spray

Keep away from drains, surface and ground water.

Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Set up barriers.

Covering of drains.

Advice on how to clean up a spill

Collect spillage.

Absorbent material (e.g. sand, diatomaceous earth, acid binder, universal binder, sawdust, etc.).

Appropriate containment techniques

Neutralization techniques.

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal.

Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5.

Personal protective equipment: see section 8.

Incompatible materials: see section 10.

Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation.

Measures to protect the environment

Avoid release to the environment.

Do not empty into drains; dispose of this material and its container at hazardous or special waste collection point.

Advice on general occupational hygiene

Do not eat, drink and smoke in work areas.

Remove contaminated clothing and protective equipment before entering eating areas.

Do not breathe mist/vapors/spray.

Do not get in eyes, on skin, or on clothing.

Wash hands thoroughly after handling.

Preventive skin protection (barrier creams/ointments) is recommended.

7.2 Conditions for safe storage, including any incompatibilities

Corrosive conditions

Store in corrosive resistant container with a resistant inner liner.

Flammability hazards

None.

Incompatible substances or mixtures

Incompatible materials: see section 10.

Protect against external exposure, such as

heat, frost, UV-radiation/sunlight

Consideration of other advice

Keep away from food, drink and animal feedingstuffs.

Ventilation requirements

Provision of sufficient ventilation.

Specific designs for storage rooms or vessels

Keep container tightly closed and in a well-ventilated place.

Keep in a cool place.

Storage temperature

minimum storage temperature: 0 °C

Packaging compatibilities

Only packagings which are approved (e.g. acc. to DOT) may be used.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)

No constituent of the product currently has a known exposure limit.

8.2 Exposure controls

Appropriate engineering controls

Use local and general ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Hand protection

Protective gloves		
Material	Material thickness	Breakthrough times of the glove material
NBR: acrylonitrile-butadiene rubber	≥ 0,11 mm	>480 minutes (permeation: level 6)

Wear suitable gloves.

Chemical protection gloves are suitable, which are tested according to EN 374.

Check leak-tightness/impermeability prior to use.

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Body protection

Protective clothing against liquid chemicals.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

During spraying wear suitable respiratory equipment.

Type: ABEK (combined filters against gases and vapors, color code: Brown/Grey/Yellow/Green).

Environmental exposure controls

Use appropriate container to avoid environmental contamination.

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Color	colourless to pale yellow - transparent
Odor	characteristic
Odor threshold	not determined

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Melting point/freezing point	not determined
Boiling point or initial boiling point and boiling range	>100 °C
Evaporation rate	not determined
Flammability (solid, gas)	not relevant (fluid)
Explosive limits	not determined
Flash point	not determined
Auto-ignition temperature	not determined
Decomposition temperature	>200 °C
pH (value)	≤2 (in aqueous solution: 1 wt%)
Viscosity	
Kinematic viscosity	not determined
Dynamic viscosity	not determined
Solubility(ies)	
Water solubility	miscible in any proportion
Partition coefficient	
n-octanol/water (log KOW)	not determined
Vapor pressure	not determined
Density and/or relative density	
Density	1.43 – 1.47 g/cm ³ at 20 °C
Relative vapour density	information on this property is not available
Relative density	1.43 – 1.47 at 20 °C (water = 1)

9.2 Other information

Information for relevant hazard classes according to GHS	there is no additional information
Other safety characteristics	there is no additional information

SECTION 10: Stability and reactivity

10.1 Reactivity

Substance or mixture corrosive to metals.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of tem-

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perature and pressure.
See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

Strong exothermic reaction with strong alkalis.

10.4 Conditions to avoid

Keep away from heat.
UV-radiation/sunlight.

10.5 Incompatible materials

bases, oxidizers, metal

10.6 Hazardous decomposition products

Carbon monoxide (CO).
Carbon dioxide (CO₂).
Phosphorus oxides (PxOy).
Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification procedure

If not otherwise specified the classification is based on:
Ingredients of the mixture (additivity formula).

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Acute toxicity

Test data are not available for the complete mixture.

Acute toxicity of components							
Name of substance	CAS No	Exposure route	End-point	Value	Species	Method	Source
1-hydroxyethane-1,1-di-phosphonic acid	2809-21-4	oral	LD50	1,878 mg/kg	rat	OECD Guideline 401	ECHA
1-hydroxyethane-1,1-di-phosphonic acid	2809-21-4	dermal	LD50	>5,000 mg/kg	rabbit	OECD Guideline 402	ECHA

Skin corrosion/irritation

The classification criteria for this hazard class are not met

The classification is based on tested mixture.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitization

Skin sensitization

Based on available data, the classification criteria are not met.

Respiratory sensitization

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Carcinogenicity

IARC Monographs

None of the ingredients are listed.

National Toxicology Program (United States)

None of the ingredients are listed.

OSHA Carcinogens

None of the ingredients are listed.

Reproductive toxicity

Based on available data, the classification criteria are not met.

Specific target organ toxicity - single exposure

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Specific target organ toxicity - repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Other information

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity (acute)

Based on available data, the classification criteria are not met.

Aquatic toxicity (acute) of components

Name of substance	CAS No	Endpoint	Exposure time	Value	Species	Method	Source
1-hydroxyethane-1,1-diphosphonic acid	2809-21-4	LC50	96 h	195 mg/l	rainbow trout (Oncorhynchus mykiss)	OECD Guideline 204	ECHA Chem
1-hydroxyeth-	2809-21-4	LC50	48 h	1,770 mg/l	Palaemonetes	-	ECHA

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Name of substance	CAS No	Endpoint	Exposure time	Value	Species	Method	Source
ane-1,1-diphosphonic acid					pugio		
1-hydroxyethane-1,1-diphosphonic acid	2809-21-4	EC50	48 h	527 mg/l	daphnia magna	OECD Guideline 202	ECHA Chem
1-hydroxyethane-1,1-diphosphonic acid	2809-21-4	EbC50	96 h	3 mg/l	algae (raphidocelis subcapitata)	-	ECHA Chem
1-hydroxyethane-1,1-diphosphonic acid	2809-21-4	ErC50	96 h	>132.2 mg/l	algae (raphidocelis subcapitata)	-	ECHA Chem

Aquatic toxicity (chronic)

Based on available data, the classification criteria are not met.

Aquatic toxicity (chronic) of components

Name of substance	CAS No	Endpoint	Exposure time	Value	Species	Method	Source
1-hydroxyethane-1,1-diphosphonic acid	2809-21-4	NOEC	28 d	6.75 mg/l	daphnia magna	-	ECHA Chem
1-hydroxyethane-1,1-diphosphonic acid	2809-21-4	NOEC	14 d	13 mg/l	algae (raphidocelis subcapitata)	-	ECHA Chem
1-hydroxyethane-1,1-diphosphonic acid	2809-21-4	NOEC	60 d	23 mg/l	rainbow trout (Oncorhynchus mykiss)	-	ECHA Chem
1-hydroxyethane-1,1-diphosphonic acid	2809-21-4	LOEC	60 d	47.6 mg/l	rainbow trout (Oncorhynchus mykiss)	OECD Guideline 204	ECHA Chem
1-hydroxyethane-1,1-diphosphonic acid	2809-21-4	LOEC	14 d	39 mg/l	algae (raphidocelis subcapitata)	-	ECHA Chem

12.2 Persistence and degradability

Biodegradation

Not readily biodegradable.

Persistence

No data available.

12.3 Bioaccumulative potential

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Bioaccumulative potential of components

Name of substance	CAS No	BCF	Log KOW
1-hydroxyethane-1,1-di-phosphonic acid	2809-21-4	71	-3.5

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of $\geq 0.1\%$.

12.6 Other adverse effects

Data are not available.

Remarks

None.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packages

Only packagings which are approved (e.g. acc. to DOT) may be used.

Completely emptied packages can be recycled.

Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions.

SECTION 14: Transport information

14.1 UN number

DOT UN3265

IMDG-Code UN3265

ICAO-TI UN3265

14.2 UN proper shipping name

DOT Corrosive liquid, acidic, organic, n.o.s.

IMDG-Code CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.

ICAO-TI Corrosive liquid, acidic, organic, n.o.s.

Technical name (hazardous ingredients) etidronic acid

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14.3 Transport hazard class(es)

DOT	8
IMDG-Code	8
ICAO-TI	8

14.4 Packing group

DOT	III
IMDG-Code	III
ICAO-TI	III

14.5 Environmental hazards

-

14.6 Special precautions for user

-

14.7 Transport in bulk according to IMO instruments

-

14.8 Information for each of the UN Model Regulations

Transport of dangerous goods by road or rail (49 CFR US DOT) Additional information

Particulars in the shipper's declaration UN3265, Corrosive liquid, acidic, organic, n.o.s., (etidronic acid), 8, III

Danger label(s) 8



Special provisions (SP) 386, IB3, T7, TP1, TP28

ERG No 153

International Maritime Dangerous Goods Code (IMDG) Additional information

Marine pollutant -

Danger label(s) 8



Special provisions (SP) 223, 274

Excepted quantities (EQ) E1

Limited quantities (LQ) 5 L

EmS F-A, S-B

Stowage category A

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Segregation group 1 - Acids.

International Civil Aviation Organization (ICAO-IATA/DGR) Additional information

Danger label(s) 8



Special provisions (SP) A3

Excepted quantities (EQ) E1

Limited quantities (LQ) 1 L

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

National regulations (United States)

Toxic Substance Control Act (TSCA) All ingredients are listed (ACTIVE) or exempt from listing

Superfund Amendment and Reauthorization Act (SARA TITLE III)

The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

None of the ingredients are listed

Specific Toxic Chemical Listings (EPCRA Section 313)

None of the ingredients are listed

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

None of the ingredients are listed

Clean Air Act

None of the ingredients are listed

Right to Know Hazardous Substance List

Toxic or Hazardous Substance List (MA-TURA)

None of the ingredients are listed

Hazardous Substances List (MN-ERTK)

None of the ingredients are listed

Hazardous Substance List (NJ-RTK)

None of the ingredients are listed

Hazardous Substance List (Chapter 323) (PA-RTK)

None of the ingredients are listed

Hazardous Substance List (RI-RTK)

None of the ingredients are listed

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California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

None of the ingredients are listed

Drug precursors, Chemicals designated within the Controlled Substances Act, 21 U.S.C. § 802, paragraphs 34 (list I) and 35 (list II)

None of the ingredients are listed

SECTION 16: Other information, including date of preparation or last revision

Date of preparation: 2021-07-16

Date of last revision: 2026-03-09.

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
49 CFR US DOT	49 CFR U.S. Department of Transportation
Acute Tox.	Acute toxicity
BCF	Bioconcentration factor
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
cD	Combustible dust
DGR	Dangerous Goods Regulations (see IATA/DGR)
DOT	Department of Transportation (USA)
EbC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
ERG No	Emergency Response Guidebook - Number
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IARC	International Agency for Research on Cancer
IARC Mono-graphs	IARC Monographs on the Evaluation of Carcinogenic Risks to Humans
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air

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Abbr.	Descriptions of used abbreviations
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
LOEC	Lowest Observed Effect Concentration
log KOW	n-Octanol/water
Met. Corr.	Substance or mixture corrosive to metals
NOEC	No Observed Effect Concentration
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
RTECS	Registry of Toxic Effects of Chemical Substances (database of NIOSH with toxicological information)
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200 (May 20, 2024 eff. July 19, 2024).
Transport of dangerous goods by road or rail (49 CFR US DOT).
International Maritime Dangerous Goods Code (IMDG).
Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties.
Health hazards.
Environmental hazards.
The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H318	Causes serious eye damage.
OSHA003	May form combustible dust concentrations in air.

Responsible for the safety data sheet

Chemical Regulatory Compliance Com- Telephone: +1 (630) 410-1660
pany
Jasper, GA e-Mail: GHS@crc-us.com
USA Website: www.crc-us.com

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This information is based upon the present state of our knowledge.
This SDS has been compiled and is solely intended for this product.