

Safety Data Sheet



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

Revision Date: 10/08/2021

Print Date: 11/13/2021

1.1 Production identifiers

Product name : DEQUEST
Brand : CJ Chemicals LLC
CAS-No. : 3794-83-0

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

Identified uses : Laboratory chemicals, synthesis of substances

1.3 Details of the supplier of the safety data sheet

Company : CJ Chemicals LLC
3469 E Grand River Rd #112
Howell, MI 48843
United States

Telephone : +1 (888) 274-1044

1.4 Emergency Telephone

Emergency Phone # : 1-800-424-9300 CHEMTREC (USA)
1-703-527-3887 CHEMTREC (international) 24 hours/day; 7 days/week

Section 2. Hazards identification

- OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
- Classification of the substance or mixture** : CORROSIVE TO METALS - Category 1
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1

GHS label elements

Hazard pictograms :



- Signal word** : Danger
- Hazard statements** : May be corrosive to metals.
Causes serious eye damage.

Precautionary statements

- General** : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.
- Prevention** : Wear protective gloves. Wear eye or face protection. Keep only in original container. Wash hands thoroughly after handling.
- Response** : Absorb spillage to prevent material damage. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical attention. 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 or physician.
- Storage** : Store in corrosive resistant container with a resistant inner liner.
- Disposal** : Not applicable.
- Supplemental label elements** : None known.
- Hazards not otherwise classified** : None known.

Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture
- Chemical name** : Not available.
- Other means of identification** : DEQUEST® 2010

CAS number/other identifiers

- Product code** : 18648, 18300, 42251, 42248, 42229, 42228, 42215, 17969, 17968, 17967, 17966, 17948

Ingredient name	%	CAS number
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1-Hydroxyethylidene-1,1-diphosphonic acid	58 - 62	2809-21-4
Phosphonic acid	1,8 - 2,5	13598-36-2

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : May cause burns to mouth, throat and stomach.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain
watering
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
- Ingestion** : Adverse symptoms may include the following:
stomach pains

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.
- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.
- Hazardous thermal decomposition products:** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
phosphorus oxides
- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated

Remark	:	in positive pressure mode.
Remark	:	Non-flammable.
Remark	:	Not applicable.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	:	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	:	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Environmental precautions	:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill	:	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Absorb spillage to prevent material damage. Dispose of via a licensed waste disposal contractor.
Large spill	:	Stop leak if without risk. Move containers from spill area. Absorb spillage to prevent material damage. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). The spilled material may be neutralized with sodium carbonate, sodium bicarbonate or sodium hydroxide. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures	:	Put on appropriate personal protective equipment (see section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from alkalis. Empty containers retain product residue and
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- can be hazardous. Do not reuse container. Absorb spillage to prevent material damage.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Store in corrosive resistant container with a resistant inner liner. Store locked up. Separate from alkalis. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
- Storage temperature:** : Do not store below the following temperature: 0 °C

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

- Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties**Appearance**

- Physical state** : liquid [liquid]
- Color** : White to yellowish.
- Odor** : Characteristic.
- Odor threshold** : Not available.
- pH** : < 2,0 [Conc. (% w/w): 10 g/l] @ 25 °C (77.00 °F)
- Melting point** : -25 °C (13.00- °F) Not applicable.
- Boiling point** : Not available.
- Flash point** : Not applicable.
- Burning time** : Not applicable.
- Burning rate** : Not available.
- Evaporation rate** : Not applicable.
- Flammability (solid, gas)** : Non-flammable.
- Lower and upper explosive (flammable) limits** : **Lower:** Not applicable.
Upper: Not applicable.
- Vapor pressure** : Not applicable.
- Vapor density** : Not available.

Relative density	:	1,45 @ 20 °C (68.00 °F)
Solubility	:	Miscible in water.
Solubility in water	:	Not available.
Octanol/water partition coefficient	:	-3,5 @ 20 °C (68.00 °F)
Auto-ignition temperature	:	Not applicable.
Decomposition temperature	:	Not available.
SADT	:	Not available.
Viscosity	:	Dynamic: Not applicable.
		Kinematic: 46 mm ² /s @ 20 °C (68.00 °F)
		5,0 mm ² /s @ 90 °C (194.00 °F)
		10,3 mm ² /s @ 60 °C (140.00 °F)
		20,2 mm ² /s @ 40 °C (104.00 °F)

Section 10. Stability and reactivity

Reactivity	:	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	:	The product is stable.
Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	:	No specific data.
Incompatible materials	:	Attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air. Reactive or incompatible with the following materials: alkalis metals
Hazardous decomposition products,	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
1-Hydroxyethylidene-1,1-diphosphonic acid				
	LD50 Oral	Rat	1.878 mg/kg	-
	LD50 Dermal	Rabbit	> 6.000 mg/kg	-
Phosphonic acid				
	LD50 Oral	Rat	1.580 mg/kg	-
DEQUEST® 2010				
	LD50 Oral	Rat	2.400 mg/kg	-
	LD50 Dermal	Rabbit	7.940 mg/kg	-

Conclusion/Summary : Conclusive but not sufficient for classification.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
DEQUEST® 2010	Skin - Primary dermal irritation index (PDII)	Rabbit	0	24 hrs	168 hrs
1-Hydroxyethylidene-1,1- diphosphonic acid	Skin - Moderate irritant	Rabbit		24 hrs	168 hrs
	Eyes - Cornea opacity	Rabbit	90	24 hrs	168 hrs
Phosphonic acid	Skin - Corrosive	Rabbit	6	4 hrs	48 hrs
Remarks:	Severely corrosive to the eyes and skin.				

Conclusion/Summary

Skin : Non-irritating to the skin.
Eyes : Causes serious eye damage.
Respiratory : Conclusive but not sufficient for classification.

Sensitization**Conclusion/Summary**

Skin : Not sensitizing
Respiratory : Conclusive but not sufficient for classification.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
1-Hydroxyethylidene-1,1- diphosphonic acid	471 Bacterial Reverse Mutation Test	In vitro; Bacteria	Negative
Phosphonic acid	471 Bacterial Reverse Mutation Test	In vitro; Bacteria; with and without	Negative

Conclusion/Summary : Not mutagenic in a standard battery of genetic toxicological tests.

Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
1-Hydroxyethylidene-1,1- diphosphonic acid	Negative - Oral - NOAEL	Rat	384 milligram per kilogram Repeated dose	104 weeks Repeated dose 7 days per week Repeated dose

Conclusion/Summary : Conclusive but not sufficient for classification.

Reproductive toxicity

Conclusion/Summary : Conclusive but not sufficient for classification.

Teratogenicity

Conclusion/Summary : Conclusive but not sufficient for classification.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye damage.
Inhalation : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Skin contact : No known significant effects or critical hazards.
Ingestion : May cause burns to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
 pain
 watering
 redness
Inhalation : No specific data.
Skin contact : Adverse symptoms may include the following:
 pain or irritation
 redness
 blistering may occur
Ingestion : Adverse symptoms may include the following:
 stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not applicable.
Potential delayed effects : Conclusive but not sufficient for classification.

Long term exposure

Potential immediate effects : Not applicable.
Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
1-Hydroxyethylidene-1,1-diphosphonic acid	NOAEL Oral	Rat	30 milligram per kilogram Repeated dose	28 days 7 days per week
	NOAEL Oral	Dog - Male	1.746 milligram	90 days 7 days per

			per kilogram Repeated dose 409 Repeated Dose 90-Day Oral Toxicity Study in Non- Rodents	week
Remarks:	No known significant effects or critical hazards.			
	NOAEL Oral	Rat - Female	1.724 milligram per kilogram Repeated dose 408 Repeated Dose 90-Day Oral Toxicity Study in Rodents	90 days 7 days per week
Remarks:	No known significant effects or critical hazards.			
	NOAEL Oral	Dog - Female	1.620 milligram per kilogram 409 Repeated Dose 90-Day Oral Toxicity Study in Non- Rodents	90 days 7 days per week
Remarks:	No known significant effects or critical hazards.			
	NOAEL Oral	Rat - Male	1.583 milligram per kilogram Repeated dose 408 Repeated Dose 90-Day Oral Toxicity Study in Rodents	90 days 7 days per week
Remarks:	No known significant effects or critical hazards.			

Conclusion/Summary : Conclusive but not sufficient for classification.

- General** : No known significant effects or critical hazards.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Other information : Not applicable.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
1-Hydroxyethylidene-1,1-diphosphonic acid			
	Acute LC50 195 mg/l Fresh water 204 Fish, Prolonged Toxicity Test: 14-Day Study	Fish - Rainbow trout,donaldson trout	96 h
	Acute LC50 2.180 mg/l Marine water 203 Fish, Acute Toxicity Test	Fish - Sheepshead minnow	96 h
	Acute LC50 868 mg/l Fresh water 203 Fish, Acute Toxicity Test	Fish - Bluegill	96 h
	Acute LC50 368 mg/l Fresh water 203 Fish, Acute Toxicity Test	Fish - Rainbow trout,donaldson trout	96 h
	Acute EC50 527 mg/l Fresh water 202 Daphnia sp. Acute Immobilization Test and Reproduction Test	Aquatic invertebrates. Water flea	48 h
	Chronic LC50 180 mg/l Fresh water 204 Fish, Prolonged Toxicity Test: 14-Day Study	Fish - Rainbow trout,donaldson trout	14 d
	Chronic No observable effect concentration 6,75 mg/l Fresh water 211 Daphnia Magna Reproduction Test	Aquatic invertebrates. Water flea	28 d
Phosphonic acid			
	Acute EC50 > 1.000 mg/l Fresh water 202 Daphnia sp. Acute Immobilization Test and Reproduction Test	Aquatic invertebrates. Water flea	48 h
	Acute EC50 > 100 mg/l Fresh water 201 Alga, Growth Inhibition Test	Aquatic plants - Algae.	72 h
DEQUEST® 2010			
	Acute LC50 368 mg/l Fresh water	Fish - Rainbow trout,donaldson trout	96 h
Remarks - Acute - Fish:	Conclusive but not sufficient for classification.		
	Acute LC50 868 mg/l Fresh water	Fish - Bluegill	96 h
	Acute EC50 527 mg/l Fresh water	Aquatic invertebrates. Water flea	48 h
Remarks - Acute - Aquatic invertebrates.:	Conclusive but not sufficient for classification.		

Conclusion/Summary : Conclusive but not sufficient for classification.

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
1-Hydroxyethylidene-1,1-diphosphonic acid	301D Ready Biodegradability - Closed Bottle Test	22,88 % - 5 d	120 mg/l	Activated sludge
	302A Inherent Biodegradability: Modified SCAS Test	10,2 % - 1 d		Activated sludge

	302A Inherent Biodegradability: Modified SCAS Test	7,0 % - 3 d		Activated sludge
	302B Inherent Biodegradability: Zahn-Wellens/EMPA Test	23 - 33 % - 30 d	500 mg/l	Activated sludge
DEQUEST® 2010	302B Inherent Biodegradability: Zahn-Wellens/EMPA Test	33 % - 28 d		
	301E Ready Biodegradability - Modified OECD Screening Test	2 % - 70 d		
	302A Inherent Biodegradability: Modified SCAS Test	90 % -		
	301D Ready Biodegradability - Closed Bottle Test	5 % -		

Conclusion/Summary : Conclusive but not sufficient for classification.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
1-Hydroxyethylidene-1,1-diphosphonic acid			
	Soil 10 Days		
		17 d (7 %)	
		17 d (22 %)	
			Not readily biodegradable.

Conclusion/Summary : Conclusive but not sufficient for classification.

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
1-Hydroxyethylidene-1,1-diphosphonic acid	-3,5	< 2 13	low
DEQUEST® 2010	-3,5	-	low

Mobility in soil

Soil/water partition coefficient (KOC) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations







Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products

should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdic Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

United States - RCRA Acute hazardous waste "P" List: Not listed

United States - RCRA Toxic hazardous waste "U" List: Not listed

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	ADR/RID	IMDG	IATA
UN number	3265	3265	3265	3265	3265	3265
UN proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (1-Hydroxyethylidene-1,1-diphosphonic acid) (Phosphonic acid)	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (1-Hydroxyethylidene-1,1-diphosphonic acid) (Phosphonic acid)	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (1-Hydroxyethylidene-1,1-diphosphonic acid) (Phosphonic acid)	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (1-Hydroxyethylidene-1,1-diphosphonic acid) (Phosphonic acid)	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(1-Hydroxyethylidene-1,1-diphosphonic acid) (Phosphonic acid)	CORROSIV E LIQUID, ACIDIC, ORGANIC, N.O.S. (1-Hydroxyethylidene-1,1-diphosphonic acid)
Transport hazard class(es)	 Class 8: Corrosive material (-)	 Class 8: Corrosive material (-)	 Class 8: Corrosive material (-)	 Class 8: Corrosive material (-)	 Class 8: Corrosive material (-)	 Class 8: Corrosive material (-)
Packing group	III	III	III	III	III	III
Environmental hazards	No.	No.	No.	No.	No.	No.
Additional information				Hazard identification number: 80 Tunnel code: E	Emergency schedules (EmS): F-A / S-B	

Special precautions for user : Transport within user’s premises: always transport in closed containers that are upright and secure. Ensure that persons

transporting the product know what to do in the event of an accident or spillage.’

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

Proper shipping name : Not applicable

Section 15. Regulatory information

U.S. Federal regulations :

- United States - TSCA 12(b) - Chemical export notification:** None of the components are listed.
- United States - TSCA 4(a) - Final Test Rules:** Not listed
- United States - TSCA 4(a) - ITC Priority list:** Not listed
- United States - TSCA 4(a) - Proposed test rules:** Not listed
- United States - TSCA 4(f) - Priority risk review:** Not listed
- United States - TSCA 5(a)2 - Final significant new use rules:** Not listed
- United States - TSCA 5(a)2 - Proposed significant new use rules:** Not listed
- United States - TSCA 5(e) - Substances consent order:** Not listed
- United States - TSCA 6 - Final risk management:** Not listed
- United States - TSCA 6 - Proposed risk management:** Not listed
- United States - TSCA 8(a) - Comprehensive assessment report (CAIR):** Not listed
- United States - TSCA 8(a) - Chemical risk rules:** Not listed
- United States - TSCA 8(a) - Dioxin/Furane precursor:** Not listed
- United States - TSCA 8(a) - Inventory update rule (IUR):** Not determined
- United States - TSCA 8(a) - Preliminary assessment report (PAIR):** Not listed
- United States - TSCA 8(c) - Significant adverse reaction (SAR):** Not listed
- United States - TSCA 8(d) - Health and safety studies:** Not listed
- United States - EPA Clean water act (CWA) section 307 - Priority pollutants:** Not listed
- United States - EPA Clean water act (CWA) section 311 - Hazardous substances:** Listed Phosphoric acid Acetic acid Hydrochloric acid
- United States - EPA Clean air act (CAA) section 112 - Accidental release prevention - Flammable substances:** Not listed
- United States - EPA Clean air act (CAA) section 112 - Accidental release prevention - Toxic substances:** Not listed
- United States - Department of commerce - Precursor chemical:** Not listed

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential : Not listed

Chemicals)**SARA 302/304**

Not applicable.

Composition/information on ingredients

Name	%	EHS	SARA 302/304
Hydrochloric acid	0 - 0,002	Yes.	TPQ (threshold planning quantity): 500 lbs

SARA 304 RQ : Not applicable.

SARA 311/312Classification : Reactive
Immediate (acute) health hazard**Composition/information on ingredients**

Name	%	Classification
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State regulations

Massachusetts : None of the components are listed.
 New York : None of the components are listed.
 New Jersey : The following components are listed:
 Phosphonic acid
 Pennsylvania : None of the components are listed.

California Prop. 65

Not available.

United States inventory (TSCA 8b) : All components are listed or exempted.

Canada inventory : All components are listed or exempted.

International regulations

International lists : **Australia inventory (AICS):** All components are listed or exempted.
Japan inventory: All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Korea inventory: All components are listed or exempted.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.
Taiwan inventory (CSNN): Not determined.
Malaysia Inventory (EHS Register): Not determined.

Chemical Weapons Convention : Not listed

List Schedule I Chemicals

Chemical Weapons Convention : Not listed

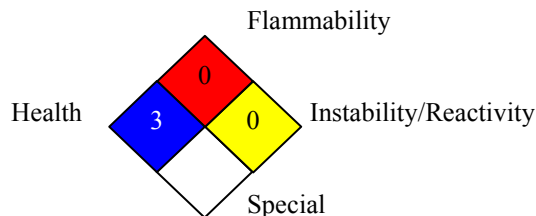
List Schedule II Chemicals

Chemical Weapons Convention : Not listed

List Schedule III Chemicals

Section 16. Other information

National Fire Protection Association (U.S.A.):



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History

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Key to abbreviations	:	ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations
References	:	Not applicable

Notice to reader

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