

ATMP 50%

Version number: 1.0

SECTION 1: Identification

1.1 Product identifier

Trade name ATMP 50%
CAS number not relevant (mixture)

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

Relevant identified uses Industrial use
Uses advised against Do not use for squirting or spraying
 Do not use for products which come into direct contact with the skin
 Do not use for private purposes (household)

1.3 Details of the supplier of the safety data sheet

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

1.4 Emergency telephone number

Emergency information service 800-535-5053 (Infotrac)
 As above or next toxicological information centre.

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 statement
A.2	skin corrosion/irritation	1	Skin Corr. 1	H314
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

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The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis.

2.2 Label elements

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

Signal word danger

Pictograms

GHS05



Hazard statements

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

Precautionary statements

P234 Keep only in original container.

P260 Do not breathe mist/vapors/spray.

P264 Wash thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a poison center/doctor.

P363 Wash contaminated clothing before reuse.

P390 Absorb spillage to prevent material damage.

P405 Store locked up.

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

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazardous ingredients for labelling

aminotrimethylene phosphonic acid

phosphonic acid

phosphoric acid ... %

2.3 Other hazards

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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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
aminotrimethylene phosphonic acid	CAS No 6419-19-8	> 50	Skin Irrit. 2 / H315 Eye Irrit. 2A / H319 Met. Corr. 1 / H290	
phosphonic acid	CAS No 13598-36-2	0 – 4	Acute Tox. 4 / H302 Skin Corr. 1A / H314 Eye Dam. 1 / H318 Met. Corr. 1 / H290	 
phosphoric acid	CAS No 7664-38-2	0 – 1.5	Skin Corr. 1B / H314 Eye Dam. 1 / H318	

The specific 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

Remove person to fresh air and keep comfortable for breathing.

Mouth to mouth resuscitation should be avoided. Use alternative methods, preferably with oxygen or compressed air driven apparatus.

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.

Causes poorly healing wounds.

Call a physician immediately.

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 immediately and drink plenty of water.

Do NOT induce vomiting.

Get immediate medical advice/attention.

Notes for the doctor

None.

4.2 Most important symptoms and effects, both acute and delayed

Causes poorly healing wounds.

Causes severe skin burns and eye damage.

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

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.

Danger of bursting container.

Substance or mixture corrosive to metals.

Hazardous combustion products

nitrogen oxides (NO_x), carbon monoxide (CO), carbon dioxide (CO₂), phosphorus oxides (P_xO_y), irritant vapors / gases

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 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.

Specific notes/details

None.

Handling of incompatible substances or mixtures

Do not mix with alkali.

Measures to protect the environment

Avoid release to the environment.

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 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.

Packaging compatibilities

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

7.3 Specific end use(s)

No information available.

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)									
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Notation	Source
US	phosphoric acid	7664-38-2	PEL (CA)	-	1	-	3	-	Cal/OSHA PEL
US	phosphoric acid	7664-38-2	REL	-	1 (10 h)	-	3	-	NIOSH REL
US	phosphoric acid	7664-38-2	PEL	-	1	-	-	-	29 CFR 1910.1000

Notation

STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

Relevant DNELs of components of the mixture						
Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
aminotrimethylene phosphonic acid	6419-19-8	DNEL	9.7 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
aminotrimethylene phosphonic acid	6419-19-8	DNEL	2.75 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
phosphonic acid	13598-36-2	DNEL	2.94 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
phosphonic acid	13598-36-2	DNEL	0.83 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

Relevant PNECs of components of the mixture				
Name of substance	CAS No	Endpoint	Threshold level	Environmental compartment
aminotrimethylene phosphonic acid	6419-19-8	PNEC	0.46 mg/l	freshwater
aminotrimethylene phosphonic acid	6419-19-8	PNEC	0.046 mg/l	marine water
aminotrimethylene phosphonic acid	6419-19-8	PNEC	20 mg/l	sewage treatment plant (STP)

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Relevant PNECs of components of the mixture				
Name of substance	CAS No	Endpoint	Threshold level	Environmental compartment
aminotrimethylene phosphonic acid	6419-19-8	PNEC	150 mg/kg	freshwater sediment
aminotrimethylene phosphonic acid	6419-19-8	PNEC	15 mg/kg	marine sediment
aminotrimethylene phosphonic acid	6419-19-8	PNEC	244 mg/kg	soil
phosphonic acid	13598-36-2	PNEC	153 µg/l	freshwater
phosphonic acid	13598-36-2	PNEC	15.3 µg/l	marine water
phosphonic acid	13598-36-2	PNEC	1.53 mg/l	water

8.2 Exposure controls

Appropriate engineering controls

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
IIR: isobutene-isoprene (butyl) rubber	these information are not available	these information are not available

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.

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.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	liquid
Color	colorless to pale yellow - clear
Odor	Nearly odorless
Other safety parameters	
pH (value)	<2 (in aqueous solution: 1 wt%, 20 °C)
Melting point/freezing point	≤-12 °C
Boiling point or initial boiling point and boiling range	~108 °C
Flash point	not determined
Evaporation rate	not determined
Flammability (solid, gas)	not relevant (fluid)
Explosive limits	not determined
Vapor pressure	not determined
Density	1.31 – 1.35 g/cm ³ at 20 °C
Vapor density	this information is not available
Relative density	information on this property is not available
Solubility(ies)	
Water solubility	miscible in any proportion
Partition coefficient	
n-octanol/water (log KOW)	not determined
Auto-ignition temperature	not determined
Decomposition temperature	~215 °C
Viscosity	
Kinematic viscosity	not determined
Dynamic viscosity	not determined
Explosive properties	none
Oxidizing properties	none

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Information for relevant hazard classes according to GHS

there is no additional information

9.2 Other information

there is no additional information

SECTION 10: Stability and reactivity

10.1 Reactivity

Substance or mixture corrosive to metals.

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

Strong exothermic reaction with strong alkalis.
Light metals (due to the release of hydrogen in an acid/alkaline medium).

10.4 Conditions to avoid

Keep away from heat.
UV-radiation/sunlight.

10.5 Incompatible materials

bases, oxidizers, metal

10.6 Hazardous decomposition products

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

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 of the mixture

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Name of substance	CAS No	Exposure route	Endpoint	Value	Species
aminotrimethylene phosphonic acid	6419-19-8	oral	LD50	2,910 mg/kg	rat
aminotrimethylene phosphonic acid	6419-19-8	dermal	LD50	>6,310 mg/kg	rabbit
phosphonic acid	13598-36-2	oral	LD50	1,580 mg/kg	rat

Skin corrosion/irritation

Causes severe skin burns and eye damage.

Classification procedure

The classification is based on an extreme pH value.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitization

Skin sensitization

Classification could not be established because:

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

Respiratory sensitization

Classification could not be established because:

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

Germ cell mutagenicity

Classification could not be established because:

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

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

Classification could not be established because:

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

Specific target organ toxicity - single exposure

Classification could not be established because:

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

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Specific target organ toxicity - repeated exposure

Classification could not be established because:

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

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)

Test data are not available for the complete mixture.

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
aminotrimethylene phosphonic acid	6419-19-8	LC50	160 mg/l	rainbow trout (<i>Oncorhynchus mykiss</i>)	96 h
aminotrimethylene phosphonic acid	6419-19-8	EC50	297 mg/l	daphnia magna	48 h
phosphonic acid	13598-36-2	LC50	>100 mg/l	carp (<i>Cyprinus carpio</i>)	96 h
phosphonic acid	13598-36-2	EC50	>1,000 mg/l	daphnia magna	48 h
phosphonic acid	13598-36-2	EC50	13.5 mg/l	algae (<i>Pseudokirchneriella subcapitata</i>)	72 h
phosphonic acid	13598-36-2	ErC50	153 mg/l	algae (<i>Pseudokirchneriella subcapitata</i>)	72 h
phosphoric acid	7664-38-2	EC50	>100 mg/l	daphnia magna	48 h
phosphoric acid	7664-38-2	ErC50	>100 mg/l	algae (<i>Desmodium subspicatus</i>)	72 h

Aquatic toxicity (chronic)

Test data are not available for the complete mixture.

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
aminotrimethylene phosphonic acid	6419-19-8	LC50	150 mg/l	rainbow trout (<i>Oncorhynchus mykiss</i>)	14 d
aminotrimethylene phosphonic acid	6419-19-8	NOEC	47 mg/l	rainbow trout (<i>Oncorhynchus mykiss</i>)	14 d

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Name of substance	CAS No	Endpoint	Value	Species	Exposure time
aminotrimethylene phosphonic acid	6419-19-8	LOEC	47.6 mg/l	rainbow trout (<i>Oncorhynchus mykiss</i>)	60 d
phosphoric acid	7664-38-2	NOEC	100 mg/l	algae (<i>Desmodium subspicatus</i>)	3 d

12.2 Persistence and degradability

Degradability of components of the mixture

Name of substance	CAS No	Process	Degradation rate	Time	Method
aminotrimethylene phosphonic acid	6419-19-8	oxygen depletion	23 %	28 d	OECD Guideline 301 D

Biodegradation

No data available.

Persistence

No data available.

12.3 Bioaccumulative potential

Test data are not available for the complete mixture.

Bioaccumulative potential of components of the mixture

Name of substance	CAS No	BCF	Log KOW
aminotrimethylene phosphonic acid	6419-19-8	22	-3.53

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Other adverse effects

This information is not available.

Remarks

Wassergefährdungsklasse, WGK (water hazard class): 1

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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) aminotrimethylene phosphonic acid, phosphoric acid ... %

14.3 Transport hazard class(es)

DOT 8

IMDG-Code 8

ICAO-TI 8

14.4 Packing group

DOT II

IMDG-Code II

ICAO-TI II

14.5 Environmental hazards

-

14.6 Special precautions for user

-

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14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code -

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., (contains: aminotrimethylene phosphonic acid, phosphoric acid ... %), 8, II

Reportable quantity (RQ) 333,333 lbs
(151,333 kg)
(phosphoric acid ... %)

Danger label(s) 8



Special provisions (SP) 148, B2, IB2, T11, TP2, TP27

ERG No 153

International Maritime Dangerous Goods Code (IMDG) Additional information

Marine pollutant -

Danger label(s) 8



Special provisions (SP) 274

Excepted quantities (EQ) E2

Limited quantities (LQ) 1 L

EmS F-A, S-B

Stowage category B

Segregation group 1 - Acids.

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

Danger label(s) 8



Special provisions (SP) A3

Excepted quantities (EQ) E2

Limited quantities (LQ) 0,5 L

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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

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)

Name of substance	CAS No	Remarks	Statutory code	Final RQ pounds (Kg)
phosphoric acid ... %	7664-38-2	-	1	5000 (2270)

Legend

1 "1" indicates that the statutory source is section 311(b)(2) of the Clean Water Act

Clean Air Act

none of the ingredients are listed

Right to Know Hazardous Substance List

Hazardous Substance List (NJ-RTK)

Name of substance	CAS No	Remarks	Classifications
phosphonic acid	13598-36-2	-	CO.
phosphoric acid ... %	7664-38-2	-	CO.

Legend

CO Corrosive

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

none of the ingredients are listed

Industry or sector specific available guidance(s)

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NPCA-HMIS® III

Hazardous Materials Identification System.
American Coatings Association.

Category	Rating	Description
Chronic	/	none
Health	3	major injury likely unless prompt action is taken and medical treatment is given
Flammability	0	material that will not burn under typical fire conditions
Physical hazard	0	material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive
Personal protection	-	-

NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

Category	Degree of hazard	Description
Flammability	0	material that will not burn under typical fire conditions
Health	3	material that, under emergency conditions, can cause serious or permanent injury
Instability	0	material that is normally stable, even under fire conditions
Special hazard	-	-

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier.

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

Date of preparation: 2021-07-21

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
29 CFR 1910.1000	29 CFR 1910.1000, Tables Z-1, Z-2, Z-3 - Occupational Safety and Health Standards: Toxic and Hazardous Substances (permissible exposure limits)
49 CFR US DOT	49 CFR U.S. Department of Transportation
Acute Tox.	Acute toxicity
BCF	Bioconcentration factor
Cal/OSHA PEL	California Division of Occupational Safety and Health (Cal/OSHA): Permissible Exposure Limits (PELs)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)

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Abbr.	Descriptions of used abbreviations
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
DOT	Department of Transportation (USA)
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 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
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
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
Met. Corr.	Substance or mixture corrosive to metals
NIOSH REL	National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs)
NOEC	No Observed Effect Concentration
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic

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Abbr.	Descriptions of used abbreviations
PEL	Permissible exposure limit
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
RTECS	Registry of Toxic Effects of Chemical Substances (database of NIOSH with toxicological information)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
STEL	Short-term exposure limit
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

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 chapter 2 and 3)

Code	Text
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.

Responsible for the safety data sheet

Chemical Regulatory Compliance Company Telephone: +1 (630) 410-1660
Chicago, IL e-Mail: GHS@crc-us.com
USA Website: www.crc-us.com

Disclaimer

This information is based upon the present state of our knowledge.

This SDS has been compiled and is solely intended for this product.