



**SAFETY DATA SHEET**  
Zerex™ HD NITRITE FREE RED ELC Antifreeze  
Coolant

Version: 2.0

Revision Date: 08/02/2023

Print Date:  
04/13/2025

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**SECTION 1. IDENTIFICATION**

Product name : Zerex™ HD NITRITE FREE RED ELC  
Antifreeze Coolant

Product code : 895612

**Manufacturer or supplier's details**

Company name of supplier : Valvoline Global Operations

Address : 100 Valvoline Way  
Lexington, KY 40509  
United States of America (USA)

Telephone : 1-800-TEAMVAL (1-800-832-6825)

E-mail address : SDS@valvolineglobal.com

Emergency telephone number : +1-800-VALVOLUME (+1-800-825-8654)

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**SECTION 2. HAZARDS IDENTIFICATION**

**GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)**

Acute toxicity (Oral) : Category 4

Specific target organ toxicity  
- repeated exposure (Oral) : Category 2 (Kidney, Liver)

**GHS label elements**

Hazard pictograms :



Signal word : Warning

Hazard statements : H302 Harmful if swallowed.  
H373 May cause damage to organs (Kidney, Liver) through  
prolonged or repeated exposure if swallowed.

Precautionary statements : **Prevention:**  
P260 Do not breathe mist or vapours.



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P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.

**Response:**

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.  
P314 Get medical advice/ attention if you feel unwell.

**Disposal:**

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

**Other hazards**

None known.

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**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

**Components**

Chemical name	CAS-No.	Concentration (% w/w)
ETHYLENE GLYCOL	107-21-1	>= 90 - <= 100
DIPOTASSIUM PHOSPHATE	7758-11-4	>= 0.1 - < 0.5

Actual concentration is withheld as a trade secret

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**SECTION 4. FIRST AID MEASURES**

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

If inhaled : If unconscious, place in recovery position and seek medical advice.  
If symptoms persist, call a physician.

In case of eye contact : Flush eyes with water as a precaution.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.

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.

Most important symptoms and effects, both acute and : Harmful if swallowed.  
May cause damage to organs through prolonged or repeated



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delayed exposure if swallowed.  
No symptoms known or expected.  
Notes to physician : No hazards which require special first aid measures.  
Treat symptomatically.

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**SECTION 5. FIREFIGHTING MEASURES**

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.  
Unsuitable extinguishing media : High volume water jet  
Hazardous combustion products : No hazardous combustion products are known  
Further information : Standard procedure for chemical fires.  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

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**SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures : Refer to protective measures listed in sections 7 and 8.  
Use personal protective equipment.  
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 : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
Keep in suitable, closed containers for disposal.

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**SECTION 7. HANDLING AND STORAGE**

Advice on protection against fire and explosion : Normal measures for preventive fire protection.  
Advice on safe handling : Do not breathe vapours/dust.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
Dispose of rinse water in accordance with local and national regulations.



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Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.  
Electrical installations / working materials must comply with the technological safety standards.

Further information on storage stability : No decomposition if stored and applied as directed.

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**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Components with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
ETHYLENE GLYCOL	107-21-1	TWA (Vapour)	25 ppm	ACGIH
		STEL (Vapour)	50 ppm	ACGIH
		STEL (Inhalable fraction, Aerosol only)	10 mg/m <sup>3</sup>	ACGIH
		C	50 ppm 125 mg/m <sup>3</sup>	OSHA P0

**Personal protective equipment**

Respiratory protection : No personal respiratory protective equipment normally required.

Hand protection

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

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.

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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance : liquid

Odour : No data available



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Odour Threshold	:	No data available
pH	:	9.5
Melting point/freezing point	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	> 250 °F / > 121 °C
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Self-ignition	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	1.125 g/cm <sup>3</sup> (68 °F / 20 °C)
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Oxidizing properties	:	No data available

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**SECTION 10. STABILITY AND REACTIVITY**



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Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed.
Conditions to avoid	:	excessive heat
Incompatible materials	:	Acids Aldehydes Alkali metals Alkaline earth metals Bases strong alkalis Strong oxidizing agents Sulphur compounds
Hazardous decomposition products	:	No hazardous decomposition products are known.

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**SECTION 11. TOXICOLOGICAL INFORMATION**

**Acute toxicity**

Harmful if swallowed.

**Product:**

Acute oral toxicity	:	Acute toxicity estimate: 540.19 mg/kg Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method

**Components:**

**ETHYLENE GLYCOL:**

Acute oral toxicity	:	LD0 (Human): estimated 1.56 g/kg  Assessment: The component/mixture is moderately toxic after single ingestion.
Acute inhalation toxicity	:	LC50 (Rat): 10.9 mg/l Exposure time: 1 h Test atmosphere: dust/mist Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	LD50 (Rabbit): 9,530 mg/kg
Acute toxicity (other routes of administration)	:	LD50 (Rat): 5,010 mg/kg Application Route: Intraperitoneal  LD50 (Rat): 3,260 mg/kg



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Application Route: Intravenous

**DIPOTASSIUM PHOSPHATE:**

Acute oral toxicity : LD50 (Rat): > 500 mg/kg  
LD50 (Rat, female): > 2,000 mg/kg  
Method: OECD Test Guideline 420  
Assessment: The substance or mixture has no acute oral toxicity

Acute dermal toxicity : LD50 (Rabbit): > 300 mg/kg  
LD50 (Rabbit): > 5,000 mg/kg  
Method: OECD Test Guideline 402

**Skin corrosion/irritation**

Not classified based on available information.

**Components:**

**ETHYLENE GLYCOL:**

Species : Rabbit  
Result : No skin irritation

**DIPOTASSIUM PHOSPHATE:**

Species : Rabbit  
Result : Slight, transient irritation

**Serious eye damage/eye irritation**

Not classified based on available information.

**Components:**

**ETHYLENE GLYCOL:**

Result : Slight, transient irritation

**DIPOTASSIUM PHOSPHATE:**

Species : Rabbit  
Result : Slight, transient irritation

**Respiratory or skin sensitisation**

**Skin sensitisation**

Not classified based on available information.



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**Respiratory sensitisation**

Not classified based on available information.

**Components:**

**ETHYLENE GLYCOL:**

Test Type : Maximisation Test  
Species : Guinea pig  
Assessment : Does not cause skin sensitisation.

**DIPOTASSIUM PHOSPHATE:**

Test Type : Local lymph node assay  
Species : Mouse  
Assessment : Did not cause sensitisation on laboratory animals.  
Method : OECD Test Guideline 429  
Remarks : The toxicological data has been taken from products of similar composition.

**Germ cell mutagenicity**

Not classified based on available information.

**Components:**

**ETHYLENE GLYCOL:**

Genotoxicity in vitro : Test Type: Ames test  
Test system: Salmonella typhimurium  
Metabolic activation: with and without metabolic activation  
Result: negative

**DIPOTASSIUM PHOSPHATE:**

Genotoxicity in vitro : Test Type: Ames test  
Test system: Salmonella typhimurium  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative  
Remarks: The toxicological data has been taken from products of similar composition.

**Carcinogenicity**

Not classified based on available information.

**IARC** No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

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



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**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**

Not classified based on available information.

**STOT - single exposure**

Not classified based on available information.

**STOT - repeated exposure**

May cause damage to organs (Kidney, Liver) through prolonged or repeated exposure if swallowed.

**Components:**

**ETHYLENE GLYCOL:**

Exposure routes : Ingestion  
Target Organs : Kidney, Liver  
Assessment : May cause damage to organs through prolonged or repeated exposure.

**Aspiration toxicity**

Not classified based on available information.

**Experience with human exposure**

**Components:**

**ETHYLENE GLYCOL:**

Ingestion : Target Organs: Kidney

**Further information**

**Product:**

Remarks : No data available

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**SECTION 12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Product:**

**Ecotoxicology Assessment**

Acute aquatic toxicity : Not classified based on available information.

Chronic aquatic toxicity : Not classified based on available information.



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**Components:**

**ETHYLENE GLYCOL:**

- Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 27,540 mg/l  
Exposure time: 96 h  
Test Type: static test
- LC50 (Pimephales promelas (fathead minnow)): 8,050 mg/l  
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): > 10,000 mg/l  
Exposure time: 48 h  
Test Type: static test
- Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 6,500 - 13,000 mg/l  
End point: Growth inhibition  
Exposure time: 7 Days
- Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 32,000 mg/l  
Exposure time: 7 d
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 24,000 mg/l  
Exposure time: 7 d

**Ecotoxicology Assessment**

- Acute aquatic toxicity : Not classified based on available information.
- Chronic aquatic toxicity : Not classified based on available information.

**DIPOTASSIUM PHOSPHATE:**

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l  
Exposure time: 96 h  
Test Type: semi-static test  
Method: OECD Test Guideline 203  
Remarks: The toxicological data has been taken from products of similar composition.
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l  
Exposure time: 48 h  
Test Type: static test  
Method: OECD Test Guideline 202  
Remarks: The toxicological data has been taken from products of similar composition.
- Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l  
End point: Growth inhibition



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Exposure time: 72 h  
Test Type: static test  
Method: OECD Test Guideline 201  
Remarks: The toxicological data has been taken from products of similar composition.

NOEC (Desmodesmus subspicatus (green algae)): > 100 mg/l  
End point: Growth inhibition  
Exposure time: 72 h  
Test Type: static test  
Method: OECD Test Guideline 201  
Remarks: The toxicological data has been taken from products of similar composition.

**Ecotoxicology Assessment**

Acute aquatic toxicity : Not classified based on available information.

Chronic aquatic toxicity : Not classified based on available information.

**Persistence and degradability**

**Components:**

**ETHYLENE GLYCOL:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 90 - 100 %  
Exposure time: 10 d  
Method: OECD Test Guideline 301

**DIPOTASSIUM PHOSPHATE:**

Biodegradability : Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

**Bioaccumulative potential**

**Components:**

**ETHYLENE GLYCOL:**

Bioaccumulation : Species: Crayfish (Procambarus)  
Bioconcentration factor (BCF): 0.27  
Exposure time: 61 d  
Concentration: 1000 mg/l  
Method: Flow through

Partition coefficient: n-octanol/water : log Pow: -1.36



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**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 : No data available  
information

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**SECTION 13. DISPOSAL CONSIDERATIONS**

**Disposal methods**

Waste from residues : Do not dispose of waste into sewer.  
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.

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**SECTION 14. TRANSPORT INFORMATION**

**International Regulations**

**UNRTDG**

Not regulated as a dangerous good

**IATA-DGR**

Not regulated as a dangerous good

**IMDG-Code**

Not regulated as a dangerous good

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

Not applicable for product as supplied.

**National Regulations**

**49 CFR**

Not regulated as a dangerous good



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**Special precautions for user**

Not applicable

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

**SECTION 15. REGULATORY INFORMATION**

**CERCLA Reportable Quantity**

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
TOLUENE	108-88-3	100	100 (F005)

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

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

**SARA 302 Extremely Hazardous Substances Threshold Planning Quantity**

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

**SARA 311/312 Hazards** : Acute toxicity (any route of exposure)  
 Specific target organ toxicity (single or repeated exposure)

**SARA 313** : The following components are subject to reporting levels established by SARA Title III, Section 313:

ETHYLENE 107-21-1 >= 90 - <= 100 %  
 GLYCOL

**Clean Air Act**

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).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61):

ETHYLENE GLYCOL 107-21-1 >= 90 - <= 100 %

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).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

ETHYLENE GLYCOL 107-21-1 >= 90 - <= 100 %

**Clean Water Act**

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

ADIPIC ACID 124-04-9 >= 0.1 - < 1 %

TOLUENE 108-88-3 >= 0 - < 0.1 %

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



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ADIPIC ACID	124-04-9	>= 0.1 - < 1 %
TOLUENE	108-88-3	>= 0 - < 0.1 %

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

This product does not contain any priority pollutants related to the U.S. Clean Water Act

**US State Regulations**

**Massachusetts Right To Know**

ETHYLENE GLYCOL	107-21-1
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**Pennsylvania Right To Know**

ETHYLENE GLYCOL	107-21-1
DECANEDIOIC ACID, DISODIUM SALT	17265-14-4
ADIPIC ACID	124-04-9

**Maine Chemicals of High Concern**

WATER	7732-18-5
TOLUENE	108-88-3
OCTAMETHYLCYCLOTETRASILOXANE	556-67-2

**Vermont Chemicals of High Concern**

ETHYLENE GLYCOL	107-21-1
WATER	7732-18-5
SODIUM MOLYBDATE	7631-95-0
TOLUENE	108-88-3
OCTAMETHYLCYCLOTETRASILOXANE	556-67-2

**Washington Chemicals of High Concern**

ETHYLENE GLYCOL	107-21-1
WATER	7732-18-5
TOLUENE	108-88-3

**California Prop. 65**

WARNING: This product can expose you to chemicals including ETHYLENE GLYCOL, TOLUENE, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**California List of Hazardous Substances**

ETHYLENE GLYCOL	107-21-1
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**California Permissible Exposure Limits for Chemical Contaminants**

ETHYLENE GLYCOL	107-21-1
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**The components of this product are reported in the following inventories:**

TCSI	: Not in compliance with the inventory
TSCA	: All substances listed as active on the TSCA inventory
AIRC	: On the inventory, or in compliance with the inventory



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DSL	:	All components of this product are on the Canadian DSL
ENCS	:	Not in compliance with the inventory
KECI	:	Not in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
NZIoC	:	On the inventory, or in compliance with the inventory

**TSCA list**

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

**Inventories**

AIIC (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TECI (Thailand), TSCA (USA)

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**SECTION 16. OTHER INFORMATION**

**Further information**



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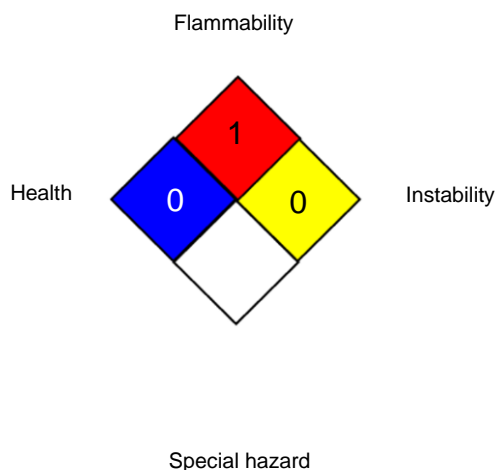
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**NFPA 704:**



**HMIS® IV:**

<b>HEALTH</b>	*	<b>2</b>
<b>FLAMMABILITY</b>		<b>1</b>
<b>PHYSICAL HAZARD</b>		<b>0</b>

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

**Full text of other abbreviations**

- ACGIH : USA. ACGIH Threshold Limit Values (TLV)
- OSHA P0 : USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)
- ACGIH / TWA : 8-hour, time-weighted average
- ACGIH / STEL : Short-term exposure limit
- OSHA P0 / C : Ceiling limit

AIIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA -



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National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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