



SAFETY DATA SHEET
ZEREX™ DEX-COOL® Antifreeze Coolant

Version: 1.1

Revision Date: 2022/01/27

Print Date:
06/21/2023

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Trade name : ZEREX™ DEX-COOL®
Antifreeze Coolant

Product code : ZXEL1

Details of the supplier of the safety data sheet Valvoline LLC 100 Valvoline Way Lexington, KY 40509 United States of America (USA) 1-800-TEAMVAL (1-800-832-6825) SDS@valvoline.com	Emergency telephone number +1-800-VALVOLINE (+1-800-825-8654) Regulatory Information Number 1-800-TEAMVAL (1-800-832-6825) Product Information 1-800-TEAMVAL (1-800-832-6825)
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral) : Category 4
Skin corrosion/irritation : Category 3
Reproductive toxicity : Category 2
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.
H316 Causes mild skin irritation.
H361d Suspected of damaging the unborn child.
H373 May cause damage to organs (Kidney, Liver) through prolonged or repeated exposure if swallowed.



SAFETY DATA SHEET
ZEREX™ DEX-COOL® Antifreeze Coolant

Version: 1.1

Revision Date: 2022/01/27

Print Date:
06/21/2023

Precautionary statements : **Prevention:**
P203 Obtain, read and follow all safety instructions before use.
P260 Do not breathe mist or vapours.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.
Response:
P301 + P317 + P330 IF SWALLOWED: Get medical help. Rinse mouth.
P318 IF exposed or concerned, get medical advice.
P332 + P317 If skin irritation occurs: Get medical help.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification
No information available.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Classification	Concentration (%)
ETHYLENE GLYCOL	107-21-1	Acute Tox. 4; H302 Acute Tox. 4; H302 Acute Tox. 4; H302 Acute Tox. 4; H302 STOT RE 2; H373	>= 90.00 - <= 100.00
POTASSIUM 2-ETHYLHEXANOATE	3164-85-0	Acute Tox. 5; H303 Skin Corr/Irr 2; H315 Repr. 2; H361d Aquatic Acute 3; H402	>= 2.50 - < 5.00



SAFETY DATA SHEET
ZEREX™ DEX-COOL® Antifreeze Coolant

Version: 1.1

Revision Date: 2022/01/27

Print Date:
06/21/2023

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 skin contact | : If skin irritation persists, call a physician.
If on skin, rinse well with water.
If on clothes, remove clothes. |
| 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 | : Clean mouth with water and drink afterwards plenty of water.
Induce vomiting immediately and call a physician.
Keep respiratory tract clear.
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 delayed | : Harmful if swallowed.
Causes mild skin irritation.
Suspected of damaging the unborn child.
May cause damage to organs through prolonged or repeated exposure if swallowed.
Harmful if swallowed.
Causes mild skin irritation.
Suspected of damaging fertility or the unborn child.
May cause damage to organs through prolonged or repeated exposure if swallowed.
No symptoms known or expected. |
| Notes to physician | : No hazards which require special first aid measures.

Treat symptomatically. |



SAFETY DATA SHEET

ZEREX™ DEX-COOL® Antifreeze Coolant

Version: 1.1

Revision Date: 2022/01/27

Print Date:
06/21/2023

SECTION 5. FIREFIGHTING MEASURES

- Unsuitable extinguishing media : High volume water jet
- Hazardous combustion products : No hazardous combustion products are known
- Specific extinguishing methods : 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.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : 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.

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.
Avoid contact with skin and eyes.
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.
- Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.
- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated



SAFETY DATA SHEET

ZEREX™ DEX-COOL® Antifreeze Coolant

Version: 1.1

Revision Date: 2022/01/27

Print Date:
06/21/2023

place.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.

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	CMP-C (aerosol)	100 mg/m ³ aerosol	AR OEL
		TWA	25 ppm Vapour	ACGIH
		STEL	50 ppm Vapour	ACGIH
		STEL	10 mg/m ³ Inhalable fraction, Aerosol only	ACGIH

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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : liquid
- Colour : orange
- Odour : No data available



SAFETY DATA SHEET
ZEREX™ DEX-COOL® Antifreeze Coolant

Version: 1.1

Revision Date: 2022/01/27

Print Date:
06/21/2023

Odour Threshold	:	No data available
pH	:	Average 8.4
Melting point/freezing point	:	-34.6 °F
Boiling point/boiling range	:	330 °F (1013 hPa)
Flash point	:	100 - < 200 °C Method: closed cup
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Self-ignition	:	No data available
Upper explosion limit / Upper flammability limit	:	15.3 %(V)
Lower explosion limit / Lower flammability limit	:	3.2 %(V)
Vapour pressure	:	17.5 mmHg
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	1.1149 g/cm ³ (15.56 °C)
Solubility(ies)		
Water solubility	:	soluble
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



SAFETY DATA SHEET
ZEREX™ DEX-COOL® Antifreeze Coolant

Version: 1.1

Revision Date: 2022/01/27

Print Date:
06/21/2023

SECTION 10. STABILITY AND REACTIVITY

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	: Aldehydes Alkali metals Alkaline earth metals Strong acids strong alkalis Strong bases Strong oxidizing agents Sulphur compounds
Hazardous decomposition products	: No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Harmful if swallowed.

Harmful if swallowed.

Product:

Acute oral toxicity : Acute toxicity estimate : 531.52 mg/kg
Method: Calculation method

Acute toxicity estimate : 531.52 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



SAFETY DATA SHEET
ZEREX™ DEX-COOL® Antifreeze Coolant

Version: 1.1

Revision Date: 2022/01/27

Print Date:
06/21/2023

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
Application Route: Intravenous

POTASSIUM 2-ETHYLHEXANOATE:

Acute oral toxicity : LD50 (Rat): 3,640 mg/kg
Remarks: The toxicological data has been taken from products of similar composition.

Acute inhalation toxicity : LC50 (Rat): > 0.11 mg/l
Exposure time: 8 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: No mortality observed at this dose.
The toxicological data has been taken from products of similar composition.

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: The toxicological data has been taken from products of similar composition.

Skin corrosion/irritation

Causes mild skin irritation.
Causes mild skin irritation.

Product:

Remarks: May cause skin irritation and/or dermatitis.

Components:

ETHYLENE GLYCOL:

Species: Rabbit

Result: No skin irritation

POTASSIUM 2-ETHYLHEXANOATE:

Species: Rabbit

Method: OECD Test Guideline 404

Result: Irritating to skin.

GLP: yes

Serious eye damage/eye irritation

Not classified based on available information.

Not classified based on available information.

Product:



SAFETY DATA SHEET
ZEREX™ DEX-COOL® Antifreeze Coolant

Version: 1.1

Revision Date: 2022/01/27

Print Date:
06/21/2023

Remarks: Vapours may cause irritation to the eyes, respiratory system and the skin.

Components:

ETHYLENE GLYCOL:

Result: Slight, transient irritation

POTASSIUM 2-ETHYLHEXANOATE:

Result: Slight, transient irritation

Respiratory or skin sensitisation

Skin sensitisation: Not classified based on available information.

Skin sensitisation: Not classified based on available information.

Respiratory sensitisation: Not classified based on available information.

Respiratory sensitisation: Not classified based on available information.

Components:

ETHYLENE GLYCOL:

Test Type: Maximisation Test

Species: Guinea pig

Assessment: Does not cause skin sensitisation.

Germ cell mutagenicity

Not classified based on available information.

Not classified based on available information.

Components:

ETHYLENE GLYCOL:

Genotoxicity in vitro

: Test Type: Ames test

Test species: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Result: negative

Carcinogenicity

Not classified based on available information.

Not classified based on available information.

Reproductive toxicity

Suspected of damaging the unborn child.

Suspected of damaging fertility or the unborn child.

Components:

POTASSIUM 2-ETHYLHEXANOATE:

Reproductive toxicity -

: Some evidence of adverse effects on development, based on

Assessment

animal experiments.

STOT - single exposure

Not classified based on available information.

Not classified based on available information.

STOT - repeated exposure

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

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

Components:



SAFETY DATA SHEET
ZEREX™ DEX-COOL® Antifreeze Coolant

Version: 1.1

Revision Date: 2022/01/27

Print Date:
06/21/2023

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.

Not classified based on available information.

Product:

No aspiration toxicity classification

Further information

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Ecotoxicology Assessment

Short-term (acute) aquatic hazard : Not classified based on available information.

Long-term (chronic) aquatic hazard : Not classified based on available information.

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 : 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 : NOEC (Daphnia magna (Water flea)): 24,000 mg/l
Exposure time: 7 d



SAFETY DATA SHEET

ZEREX™ DEX-COOL® Antifreeze Coolant

Version: 1.1

Revision Date: 2022/01/27

Print Date:
06/21/2023

(Chronic toxicity)

Ecotoxicology Assessment
Short-term (acute) aquatic hazard : Not classified based on available information.

Long-term (chronic) aquatic hazard : Not classified based on available information.

POTASSIUM 2-ETHYLHEXANOATE:

Toxicity to fish : LC50 (Fish): > 100 mg/l
Exposure time: 96 h
Remarks: The toxicological data has been taken from products of similar composition.

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 106 mg/l
Exposure time: 48 h
Test Type: static test
Remarks: The toxicological data has been taken from products of similar composition.

Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): 49.3 mg/l
End point: Growth inhibition
Exposure time: 72 h
Test Type: static test
Remarks: The toxicological data has been taken from products of similar composition.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 25 mg/l
Exposure time: 21 d
Test Type: static test
Remarks: The toxicological data has been taken from products of similar composition.

Persistence and degradability

Components:

ETHYLENE GLYCOL:

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

POTASSIUM 2-ETHYLHEXANOATE:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 99 %
Exposure time: 28 d
Remarks: The toxicological data has been taken from products of similar composition.

No data available



SAFETY DATA SHEET
ZEREX™ DEX-COOL® Antifreeze Coolant

Version: 1.1

Revision Date: 2022/01/27

Print Date:
06/21/2023

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

No data available

Mobility in soil

Components:

No data available

Other adverse effects

No data available

Product:

Additional ecological information : No data available

Components:

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

General advice : 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.

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



SAFETY DATA SHEET
ZEREX™ DEX-COOL® Antifreeze Coolant

Version: 1.1

Revision Date: 2022/01/27

Print Date:
06/21/2023

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

Not applicable for product as supplied.

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

Safety, health and environmental regulations/legislation specific for the substance or mixture

Control of precursors and essential chemicals for the preparation of drugs : Not applicable

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
AIIC	: Not in compliance with the inventory
DSL	: This product contains the following components that are not on the Canadian DSL nor NDSL.
ENCS	: Not in compliance with the inventory
ISHL	: Not in compliance with the inventory
KECI	: Not in compliance with the inventory
PICCS	: Not 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
TECI	: Not in compliance with the inventory

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)

SECTION 16. OTHER INFORMATION

Further information



SAFETY DATA SHEET
ZEREX™ DEX-COOL® Antifreeze Coolant

Version: 1.1

Revision Date: 2022/01/27

Print Date:
06/21/2023

Internal information : R0318755

Full text of H-Statements

H302	Harmful if swallowed.
H303	May be harmful if swallowed.
H315	Causes skin irritation.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure if swallowed.
H402	Harmful to aquatic life.

Other information : The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Valvoline's Environmental Health and Safety Department (1-800-VALVOLINE).

Sources of key data used to compile the Safety Data Sheet
Valvoline internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :

ACGIH : American Conference of Industrial Hygienists
BEI : Biological Exposure Index
CAS : Chemical Abstracts Service (Division of the American Chemical Society).
CMR : Carcinogenic, Mutagenic or Toxic for Reproduction
FG : Food grade
GHS : Globally Harmonized System of Classification and Labeling of Chemicals.
H-statement : Hazard Statement
IATA : International Air Transport Association.
IATA-DGR : Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

ICAO : International Civil Aviation Organization
ICAO-TI (ICAO) : Technical Instructions by the "International Civil Aviation Organization"
IMDG : International Maritime Code for Dangerous Goods
ISO : International Organization for Standardization
logPow : octanol-water partition coefficient
LCxx : Lethal Concentration, for xx percent of test population



SAFETY DATA SHEET
ZEREX™ DEX-COOL® Antifreeze Coolant

Version: 1.1

Revision Date: 2022/01/27

Print Date:
06/21/2023

LDxx : Lethal Dose, for xx percent of test population.
ICxx : Inhibitory Concentration for xx of a substance
Ecxx : Effective Concentration of xx
N.O.S.: Not Otherwise Specified
OECD : Organization for Economic Co-operation and Development
OEL : Occupational Exposure Limit
P-Statement : Precautionary Statement
PBT : Persistent , Bioaccumulative and Toxic
PPE : Personal Protective Equipment
STEL : Short-term exposure limit
STOT : Specific Target Organ Toxicity
TLV : Threshold Limit Value
TWA : Time-weighted average
vPvB : Very Persistent and Very Bioaccumulative
WEL : Workplace Exposure Level