SECTION 1: Identification

1.1 GHS Product identifier

Product name	Tungsten Defender Plus
Product number	9249

1.4 Supplier's details

Name	Ardex Labs.
Address	2050 Byberry Rd Philadelphia PA 19116 United States of America
Telephone	2156980500
email	info@ardexlabs.com

1.5 Emergency phone number

800-424-9300
CHEMTREC – TOLL FREE 24 HOUR EMERGENCY TELEPHONE NUMBER

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

GHS classification in accordance with: OSHA (29 CFR 1910.1200)

- Specific target organ toxicity (single exposure) (C.4.11), Cat. 2
- Toxic to reproduction (C.4.10), Cat. 2

2.2 GHS label elements, including precautionary statements

Pictograms

Signal word	Warning

Hazard statement(s)

H361	Suspected of damaging fertility or the unborn child [effect, route]
H371	May cause damage to organs [organs, route]

Precautionary statement(s)

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash hands and exposed 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.
P308+P311	IF exposed or concerned: Call a POISON CENTER/doctor
P308+P313	IF exposed or concerned: Get medical advice/attention.

P405	Store locked up.
P501	Dispose of contents/container to local, state, and federal regulations

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

Component	Concentration
Silicone Emulsion*	< 8 %*
CLASSIFICATIONS: Hazardous to the aquatic environment, short-term (acute) (chapter 4.1), Cat. 3; Eye damage/irritation (C.4.5), Cat. 2A. HAZARDS: H319 - Causes serious eye irritation; H402 - Harmful to aquatic life.	
Component 2 (trade secret)*	< 5 %*
CLASSIFICATIONS: Eye damage/irritation (C.4.5), Cat. 2A; Flammable liquids (C.4.19), Cat. 2; Skin corrosion/irritation (C.4.4), Cat. 2; Specific target organ toxicity (single exposure) (C.4.11), Cat. 2; Toxic to reproduction (C.4.10), Cat. 2. HAZARDS: H225 - Highly flammable liquid and vapor; H315 - Causes skin irritation; H319 - Causes serious eye irritation; H361 - Suspected of damaging fertility or the unborn child [effect, route]; H371 - May cause damage to organs [organs, route].	
POLYETHYLENE GLYCOL liquid (CAS no.: 25322-68-3)	<5%*
CLASSIFICATIONS: Specific target organ toxicity (single exposure) (C.4.11), Cat. 3. HAZARDS: H335 - May cause respiratory irritation.	

Trade secret statement (OSHA 1910.1200(i))
*The specific chemical identities and/or actual concentrations or actual concentration ranges for one or more listed components are being withheld as trade secrets under the US regulation 29 CFR 1910.1200(i).

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice	In the case of accident or if you feel unwell, seek medical advice immediately. When symptoms persist or in all cases of doubt seek medical advice.
If inhaled	If inhaled, remove to fresh air. Get medical attention.
In case of skin contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.
In case of eye contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lens, if worn. Get medical attention.
If swallowed	If swallowed, DO NOT induce vomiting. Get medical attention. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person.

Personal protective equipment for first-aid responders

First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists.

4.2 Most important symptoms/effects, acute and delayed
Causes skin irritation.
Causes serious eye irritation.
Suspected of damaging fertility.
May cause damage to organs.

4.3 Indication of immediate medical attention and special treatment needed, if necessary
Treat symptomatically and supportively.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media
Suitable extinguishing media:
Water spray
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media: High volume water jet

5.2 Specific hazards arising from the chemical
Do not use a solid water stream as it may scatter and spread fire.
Flash back possible over considerable distance.
Vapors may form explosive mixtures with air.
Exposure to combustion products may be a hazard to health.

Carbon oxides
Silicon oxides
Nitrogen oxides (NOx)
Formaldehyde

5.3 Special protective actions for fire-fighters
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers.
Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.

Further information
As with all chemical fires, wear self-contained breathing apparatus.
Use personal protective equipment.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Remove all sources of ignition.
Ventilate the area.
Use personal protective equipment.
Follow safe handling advice and personal protective equipment recommendations.

6.2 Environmental precautions

Discharge into the environment must be avoided.
Prevent further leakage or spillage if safe to do so.
Prevent spreading over a wide area (e.g. by containment or oil barriers).
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and materials for containment and cleaning up

Non-sparking tools should be used.
Soak up with inert absorbent material.
Suppress (knock down) gases/vapors/mists with a water spray jet.
For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorbent.

Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

Reference to other sections

See Heading 8. Exposure controls and personal protection. For further information refer to section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Ensure all equipment is electrically grounded before beginning transfer operations.
This material can accumulate static charge due to its inherent physical properties and can therefore cause an electrical ignition source to vapors. In order to prevent a fire hazard, as bonding and grounding may be insufficient to remove static electricity, it is necessary to provide an inert gas purge before beginning transfer operations.
Restrict flow velocity in order to reduce the accumulation of static electricity
Do not get on skin or clothing.
Avoid inhalation of vapor or mist.
Do not swallow.
Do not get in eyes.
Handle in accordance with good industrial hygiene and safety practice.
Non-sparking tools should be used.
Keep container tightly closed.
Keep away from heat and sources of ignition.
Take precautionary measures against static discharges.
Take care to prevent spills, waste and minimize release to the environment.

7.2 Conditions for safe storage, including any incompatibilities

Use with local exhaust ventilation.
Use only in an area equipped with explosion proof exhaust ventilation.

Keep in properly labeled containers.
Store locked up.
Keep tightly closed.
Keep in a cool, well-ventilated place.
Store in accordance with the particular national regulations.
Keep away from heat and sources of ignition.

Do not store with the following product types:
Strong oxidizing agents
Organic peroxides
Flammable solids
Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
Substances and mixtures which in contact with water emit flammable gases
Explosives

Specific end use(s)
Automitive detailing product

SECTION 8: Exposure controls/personal protection

8.2 Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.
Processing may form hazardous compounds (see section 10).
Minimize workplace exposure concentrations.
Use only in an area equipped with explosion proof exhaust ventilation.
Use with local exhaust ventilation

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection
Wear the following personal protective equipment:
Safety goggles

Skin protection
Chemical-resistant gloves
Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Take note that the product is flammable, which may impact the selection of hand protection. Wash hands before breaks and at the end of workday.

Body protection
Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
Wear the following personal protective equipment:
Flame retardant antistatic protective clothing.
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

Respiratory protection
General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn.
Follow OSHA respirator regulations (29 CFR 1910.134) anduse NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

SECTION 9: Physical and chemical properties

Appearance (physical state, color, etc.)	Very thin liquid
Odor	Banana
Odor threshold	No data available.
pH	3-5
Melting point/freezing point	32f
Initial boiling point and boiling range	212f
Flash point	>212f
Evaporation rate	No data available.
Flammability (solid, gas)	No data available.
Upper/lower flammability or explosive limits	No data available.
Vapor pressure	No data available.
Vapor density	No data available.
Relative density	1-1.02
Solubility(ies)	Dispersible in water
Partition coefficient: n-octanol/water	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Viscosity	No data available.

Additional properties

Physical state	Liquid
Color	Pale Yellow
Explosive properties	No data available.
Oxidizing properties	No data available.

Further safety characteristics (supplemental)
No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity
Not classified as a reactivity hazard.

10.2 Chemical stability
Stable under normal conditions.

10.3 Possibility of hazardous reactions
Highly flammable liquid and vapor.
Vapors may form explosive mixture with air.
Use at elevated temperatures may form highly hazardous compounds.
Can react with strong oxidizing agents.
Hazardous decomposition products will be formed at elevated temperatures.

10.4 Conditions to avoid
Handling operations that can promote accumulation of static charges.
Heat, flames and sparks.

10.5 Incompatible materials
Oxidizing agents

10.6 Hazardous decomposition products
Formaldehyde

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Silicone Emulsion: Acute oral toxicity (rat)
Not classified based on available information.
Acute dermal toxicity (rabbit)
No applicable information is available

Acute inhalation toxicity
Not available
Subchronic oral toxicity (rat)
Not available

Component 2: Acute oral toxicity: Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method
Acute inhalation toxicity: Acute toxicity estimate: 75 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Method: Calculation method
Acute dermal toxicity: Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

POLYETHYLENE GLYCOL liquid: Low toxic. Substance of low danger as to adverse health effect.
LD50 = 157000 mg/kg, intragastric, guinea pigs;

LD50 = 28915 mg/kg, intragastric, mice, rats;
LD50 = 9708 mg/kg, intra-abdominal, rats;
LD50= 7312 mg/kg, intravenous, rats;

Skin corrosion/irritation

Silicone Emulsion: Skin irritation (rabbit)
Not classified based on available information.

POLYETHYLENE GLYCOL liquid: Prolonged contact may cause slight skin irritation with local redness. Did not cause allergic skin reactions when tested in humans. LD50, Rabbit > 20,000 mg/kg

Serious eye damage/irritation

Silicone Emulsion: Eye irritation (rabbit)
Risk of serious damage to eyes.

POLYETHYLENE GLYCOL liquid: May cause slight temporary eye irritation. Corneal injury is unlikely.

Respiratory or skin sensitization

Silicone Emulsion: Sensitization
Not classified based on available information.

POLYETHYLENE GLYCOL liquid: At room temperature, exposure to vapor is minimal due to low volatility; single exposure is not likely to be hazardous.
Maximum attainable concentration. LC50, 8 h, Vapor, Rat > 13 ppm

Germ cell mutagenicity

Silicone Emulsion: No data available.

POLYETHYLENE GLYCOL liquid: In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Carcinogenicity

Silicone Emulsion: No data available.

POLYETHYLENE GLYCOL liquid: Similar material(s) did not cause cancer in laboratory animals.

Reproductive toxicity

Silicone Emulsion: No data available.

POLYETHYLENE GLYCOL liquid: For similar material(s): In animal studies, did not interfere with reproduction.

Summary of evaluation of the CMR properties

Silicone Emulsion: No data available.

Component 2: Decamethylcyclopentasiloxane:
Result: negative
Remarks: Based on test data
Carcinogenicity - Assessment: Animal testing did not show any carcinogenic effects.
IARC
No ingredient 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 ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Specific target organ toxicity (STOT) - single exposure

Silicone Emulsion: No data available.

Specific target organ toxicity (STOT) - repeated exposure

Silicone Emulsion: No data available.

POLYETHYLENE GLYCOL liquid: Similar material(s) did not cause cancer in laboratory animals.

Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Aspiration hazard

Silicone Emulsion: No data available.

Additional information

Silicone Emulsion: No data available.

ISOPROPANOL: *TOXICITY:
typ. dose mode specie amount units other
TDLo orl hmn 223 mg/kg
LDLo orl man 5272 mg/kg
LDLo unr man 2770 mg/kg
LD50 orl rat 5045 mg/kg
LCLo ihl rat 16000 ppm/4H
LD50 orl mus 3600 mg/kg
LD50 ipr mus 4477 mg/kg
LDLo scu mus 6000 mg/kg
LD50 ivn mus 1509 mg/kg
LD50 orl dog 4797 mg/kg
LDLo ivn dog 5120 mg/kg
LDLo ivn cat 1963 mg/kg
LD50 orl rbt 6410 mg/kg
LD50 skn rbt 12800 mg/kg
LD50 ivn rbt 1184 mg/kg
LDLo scu mam 6 mg/kg
TDLo orl man 14432 mg/kg
LDLo orl hmn 3570 mg/kg
LD50 ipr rat 2735 mg/kg
LD50 ivn rat 1088 mg/kg
LCLo ihl mus 12800 ppm/3H
LD50 ipr rbt 667 mg/kg
LD50 ipr gpg 2560 mg/kg
LD50 ipr ham 3444 mg/kg
LDLo par frg 20 gm/kg

*AQTX/TLM96: Not available

*SAX TOXICITY EVALUATION:
THR: Poison by ingestion and subcutaneous routes. Moderately toxic to humans by an unspecified route. Moderately toxic experimentally by intravenous and intraperitoneal routes. Mildly toxic by skin contact. Human systemic effects by ingestion or inhalation. Experimental teratogenic and reproductive effects. Mutagenic data. An eye and skin irritant.

*CARCINOGENICITY:
Review: IARC Cancer Review: Human Inadequate Evidence
IARC Cancer Review: Animal Inadequate Evidence
IARC: Not classifiable as a human carcinogen (Group 3) [015,395,610]

*MUTATION DATA: See RTECS printout for data

*TERATOGENICITY: See RTECS printout for data

*STANDARDS, REGULATIONS & RECOMMENDATIONS:
OSHA: Federal Register (1/19/89) and 29 CFR 1910.1000 Subpart Z
Transitional Limit: PEL-TWA 400 ppm [015,327,545,610]
Final Limit: PEL-TWA 400 ppm; STEL 500 ppm [015,545,610]
ACGIH: TLV-TWA 400 ppm; STEL 500 ppm [015,415,421,610]

NIOSH Criteria Document: Recommended Exposure Limit to this compound-air:
TWA 400 ppm/10H; Ceiling Limit 800 ppm/15M [015,610]
NFPA Hazard Rating: Health (H): 1
Flammability (F): 3
Reactivity (R): 0
H1: Materials only slightly hazardous to health (see NFPA for details).
F3: Materials which can be ignited under almost all normal temperature conditions (see NFPA for details).
R0: Materials which are normally stable even under fire exposure conditions and which are not reactive with water (see NFPA for details).

*OTHER TOXICITY DATA:
Skin and Eye Irritation Data:
eye-rbt 10 mg MOD
skn-rbt 500 mg MLD
eye-rbt 16 mg
eye-rbt 100 mg/24H MOD
Review: Toxicology Review-3
Standards and Regulations: DOT-Hazard: Flammable liquid; Label: Flammable liquid
Status: EPA Genetox Program 1988, Negative: Cell transform.-SA7/SHE; N crassa-aneuploidy
EPA TSCA Chemical Inventory, 1986
EPA TSCA Section 8(e) Status Report 8EHQ-1180-0371
EPA TSCA Section 8(e) Status Report 8EHQ-0985-0566
EPA Test Submission (TSCATS) Data Base, September 1989
NIOSH Analytical Methods: see Alcohols I, 1400
IDLH value: 20000 ppm [371]
Single lethal dose for adults is ~250 mLs although as little as 100 mLs can be fatal [043].

POLYETHYLENE GLYCOL liquid: *STANDARDS, REGULATIONS & RECOMMENDATIONS:
OSHA: None
ACGIH: None
NIOSH Criteria Document: None
NFPA Hazard Rating: Health (H): 0
Flammability (F): 1
Reactivity (R): 0
H0: Materials which on exposure under fire conditions would offer no hazard beyond that of ordinary combustible material (see NFPA for details).
F1: Materials that must be preheated before ignition can occur (see NFPA for details).
R0: Materials which are normally stable even under fire exposure conditions and which are not reactive with water (see NFPA for details).

*OTHER TOXICITY DATA: Not available

SECTION 12: Ecological information

Toxicity

Silicone Emulsion: LC50 (96 hr) 1-10 mg/l, Leuciscus idus

POLYETHYLENE GLYCOL liquid: Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50 greater than 100 mg/L in most sensitive species).

Fish Acute & Prolonged Toxicity:
LC50, fathead minnow (Pimephales promelas), 96 h: > 73,000 mg/l
Aquatic Invertebrate Acute Toxicity:
LC50, water flea Daphnia magna: > 10,000 mg/l

Persistence and degradability

Silicone Emulsion: No data available on product as supplied.

POLYETHYLENE GLYCOL liquid: Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

Bioaccumulative potential

Silicone Emulsion: No data available.

POLYETHYLENE GLYCOL liquid: No bioconcentration is expected because of the high water solubility

Mobility in soil

Silicone Emulsion: No data available.

Results of PBT and vPvB assessment

Silicone Emulsion: No data available.

Other adverse effects

Silicone Emulsion: No data available.

SECTION 13: Disposal considerations

Disposal methods

Product disposal
Dispose of product in accordance with local, state, and federal regulations.

Packaging disposal
Dispose of as unused product.

Waste treatment
Dispose of only in accordance with local, state, and federal regulations.

Sewage disposal
Do not dispose of in sewers.

Other disposal recommendations
No data available.

SECTION 14: Transport information

DOT (US)
Not dangerous goods

IMDG
Not dangerous goods

IATA
Not dangerous goods

SECTION 15: Regulatory information

SECTION 16: Other information

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2024-11-11
Other Information:
This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.
Party Responsible for the Preparation of This Document
Ardex Laboratories, Inc. 2050 Byberry rd Philadelphia, PA 19116 T: 215-698-0500 ardexlabs.com
This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
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