



2040, 2041, 2069, 2099 Synthoil Premium 5W-40

Safety Data Sheet

According to 29CFR 1910.1200 OSHA Hazard Communication Standard (HCS 2024) and the Hazardous Products Regulation (WHMIS 2015 rev 2022)

Issue date: 7/16/2023 Revision date: 7/30/2025 Supersedes: 7/16/2023 Version: 2.0

SECTION 1 Identification

1.1. Product identifier

Product form : Mixture
Trade name : 2040, 2041, 2069, 2099 Synthoil Premium 5W-40
Product code :

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Intended for general public
Recommended use : Engine oil
Restrictions on use : None known

1.4. Supplier's details

Liqui Moly GmbH
Jerg-Wieland-Strasse 4 Ulm D-89081 Germany
T +49 731 1420 0
info@liqui-moly.de - www.liqui-moly.us

1.5. Emergency phone number

Emergency number : INFOTRAC
+1800 535 5053 (USA, Canada); +1352 323 3500 (International)

SECTION 2 Hazard Identification

2.1. Classification of the substance or mixture

GHS US classification

Serious eye damage/eye irritation, Category 2	H319	Causes serious eye irritation.
Skin sensitization, Category 1	H317	May cause an allergic skin reaction.
Hazardous to the aquatic environment — Acute Hazard, Category 3	H402	Harmful to aquatic life.
Hazardous to the aquatic environment — Chronic Hazard, Category 3	H412	Harmful to aquatic life with long lasting effects.

Full text of H statements : see section 16

2.2. Label elements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Warning
Hazard statements (GHS US) : H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H412 - Harmful to aquatic life with long lasting effects
Precautionary statements (GHS US) : P261 - Avoid breathing mist.
P264 - Wash hands thoroughly after handling.
P272 - Contaminated work clothing must not be allowed out of the workplace.
P273 - Avoid release to the environment.

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P280 - Wear protective gloves, eye protection.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 - If eye irritation persists: Get medical attention.
P302+P352 - If on skin: Wash with plenty of soap and water.
P333+P313 - If skin irritation or rash occurs: Get medical attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P501 - Dispose of contents and/or container to an approved waste disposal plant.

2.3. Hazards associated with known or reasonably anticipated uses

None known

2.4. Hazards not otherwise classified

Other hazards which do not result in classification : None known.

2.5. Unknown acute toxicity

No additional information available

SECTION 3 Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Distillates (petroleum), hydrotreated heavy paraffinic	CAS-No.: 64742-54-7	80-100
zinc O,O,O',O'-tetrakis(1,3-dimethylbutyl) bis(phosphorodithioate)	CAS-No.: 2215-35-2	0.1-<2
1-(N,N-bis(2-ethylhexyl)aminomethyl)-1,2,4-triazole	CAS-No.: 91273-04-0	0.1-<1

Full text of hazard classes and H-statements : see section 16

SECTION 4 First aid measures

4.1. Description of necessary first-aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with mild soap and water. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact : Rinse immediately with plenty of water for 15 minutes. Get medical attention if irritation develops and persists.
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects : Causes eye irritation. May cause an allergic skin reaction.
Inhalation : Inhalation of mists or vapors at elevated temperatures may cause respiratory irritation.
Skin : Repeated or prolonged skin contact may cause dermatitis and defatting. May cause an allergic skin reaction.
Eyes : Causes serious eye damage.
Ingestion : Abdominal pain. Diarrhoea.
Chronic symptoms : None known.

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

Other medical advice or treatment : Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media : Use of heavy stream of water may spread fire.

5.2. Specific hazards arising from the chemical

Fire hazard : This product is not classified as flammable or combustible.
Hazardous decomposition products in case of fire : Toxic fumes may be released. Carbon oxides (CO, CO₂). Fire will produce dense black smoke.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Cool down the containers exposed to heat with a water spray.
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Emergency procedures : Keep unnecessary and unprotected personnel away from the spillage.

For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

Environmental precautions : Avoid release to the environment.

6.2. Methods and materials for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for cleaning up : Absorb and/or contain spill with inert material, then place in suitable container.
Other information : Dispose of materials or solid residues at an authorized site.

For further information refer to section 13

SECTION 7 Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Avoid contact with eyes. Avoid repeated or prolonged skin contact.
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.
Incompatible materials : Strong oxidizers.

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SECTION 8 Exposure controls/personal protection

8.1. Control parameters

Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)

USA - ACGIH - Occupational Exposure Limits

Local name	Mineral oil, excluding metal working fluids Pure, highly and severely refined
ACGIH® TLV® TWA	5 mg/m³ (I - Inhalable particulate matter)
Remark (ACGIH)	TLV® Basis: URT irr. Notations: A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH 2024

USA - OSHA - Occupational Exposure Limits

Local name	Oil mist, mineral
OSHA PEL (TWA)	5 mg/m³
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

8.2. Appropriate engineering controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Environmental exposure controls	: Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment

Hand protection:

In case of repeated or prolonged contact wear gloves. Consult supplier for specific recommendations.

Eye protection:

Avoid contact with eyes. If there is a risk of liquid being splashed : Chemical goggles or safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In operations where exposure limits are exceeded or exposure levels are excessive, an approved respirator should be used. Respirator selection and use should be based on contaminant type, form and concentration. Follow applicable regulations and good Industrial Hygiene practice.

SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Color	: Brown
Odor	: Characteristic
Odor threshold	: No data available
pH	: No data available
Melting point	: -36 °C
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 230 °C (446F)
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: No data available

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Relative vapor density at 20°C	: No data available
Relative density	: 0.855
Solubility	: Insoluble in water.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: 83 mm²/s @40C
Explosion limits	: No data available
Explosive properties	: None.
Oxidizing properties	: None.
Particle characteristics	: Particle characteristics : Not applicable

9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

SECTION 10 Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Strong oxidizers. Strong acids. Strong bases.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11 Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)

LD50 oral rat	> 5000 mg/kg
LD50 dermal rat	> 2000 mg/kg body weight
LD50 dermal rabbit	> 5000 mg/kg Source: IUCLID
LC50 Inhalation - Rat	> 5000 mg/m³

1-(N,N-bis(2-ethylhexyl)aminomethyl)-1,2,4-triazole (91273-04-0)

LD50 oral rat	> 2000 mg/kg Source: ECHA
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According to 29CFR 1910.1200 OSHA Hazard Communication Standard (HCS 2024) and the Hazardous Products Regulation (WHMIS 2015 rev 2022)

1-(N,N-bis(2-ethylhexyl)aminomethyl)-1,2,4-triazole (91273-04-0)	
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
zinc O,O,O',O'-tetrakis(1,3-dimethylbutyl) bis(phosphorodithioate) (2215-35-2)	
LD50 oral rat	2230 mg/kg body weight Animal: rat, Guideline: other:, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 1,66 - 2,99
LD50 dermal rabbit	> 3160 mg/kg body weight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified

1-(N,N-bis(2-ethylhexyl)aminomethyl)-1,2,4-triazole (91273-04-0)	
NOAEL (animal/male, F0/P)	100 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test)
NOAEL (animal/male, F1)	100 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test)

STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified

Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)	
LOAEL (oral,rat,90 days)	125 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
zinc O,O,O',O'-tetrakis(1,3-dimethylbutyl) bis(phosphorodithioate) (2215-35-2)	
NOAEL (oral,rat,90 days)	160 mg/kg body weight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

Aspiration hazard	: Not classified
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Viscosity, kinematic	83 mm²/s @40C

Symptoms/effects	: Causes eye irritation. May cause an allergic skin reaction.
Inhalation	: Inhalation of mists or vapors at elevated temperatures may cause respiratory irritation.
Skin	: Repeated or prolonged skin contact may cause dermatitis and defatting. May cause an allergic skin reaction.
Eyes	: Causes serious eye damage.
Ingestion	: Abdominal pain. Diarrhoea.
Chronic symptoms	: None known.

SECTION 12 Ecological information

12.1. Ecotoxicity

Ecology - general	: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
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Hazardous to the aquatic environment, short-term : Harmful to aquatic life.

(acute)

Hazardous to the aquatic environment, long-term : Harmful to aquatic life with long lasting effects.

(chronic)

Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)	
LC50 - Fish [1]	≥ 100 mg/l
EC50 - Crustacea [1]	> 10 g/l
EC50 96h - Algae [1]	> 1000 mg/l Source: IUCLID
1-(N,N-bis(2-ethylhexyl)aminomethyl)-1,2,4-triazole (91273-04-0)	
LC50 - Fish [1]	1.1 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	2.2 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	0.66 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
ErC50 algae	> 0.96 mg/l Source: BASF
NOEC chronic fish	> 100 mg/l Test organisms (species): Duration: '28 d'
zinc O,O,O',O'-tetrakis(1,3-dimethylbutyl) bis(phosphorodithioate) (2215-35-2)	
LC50 - Fish [1]	4.5 mg/l
EC50 - Crustacea [1]	23 mg/l
ErC50 algae	24 mg/l
NOEC (chronic)	0.4 mg/l Daphnia mahna 21d

12.2. Persistence and degradability

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Persistence and degradability	No additional information available.
Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)	
Persistence and degradability	Inherently biodegradable.
1-(N,N-bis(2-ethylhexyl)aminomethyl)-1,2,4-triazole (91273-04-0)	
Persistence and degradability	Not readily biodegradable.
zinc O,O,O',O'-tetrakis(1,3-dimethylbutyl) bis(phosphorodithioate) (2215-35-2)	
Persistence and degradability	Not rapidly degradable

12.3. Bioaccumulative potential

Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)	
Partition coefficient n-octanol/water (Log Pow)	3.9 – 6 Source: IUCLID
1-(N,N-bis(2-ethylhexyl)aminomethyl)-1,2,4-triazole (91273-04-0)	
Partition coefficient n-octanol/water (Log Kow)	5.3
zinc O,O,O',O'-tetrakis(1,3-dimethylbutyl) bis(phosphorodithioate) (2215-35-2)	
Partition coefficient n-octanol/water (Log Pow)	2.21 Source: ECHA

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12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Ozone : Not classified
Fluorinated greenhouse gases : No

SECTION 13 Disposal considerations

Waste treatment methods : Dispose in a safe manner in accordance with local/national regulations.

SECTION 14 Transport information

In accordance with DOT / TDG / IMDG / IATA

DOT	TDG	IMDG	IATA
14.1. UN number			
Not regulated for transport			
14.2. Proper Shipping Name			
Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)			
Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group			
Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards			
Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available			

14.6. Transport in bulk

Not applicable

14.7. Special precautions for user

DOT
Not regulated

TDG
Not regulated

IMDG
Not regulated

IATA
Not regulated

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SECTION 15 Regulatory information

15.1. Federal regulations

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SARA Section 311/312 Hazard Classes	Refer to Section 2 for OSHA Hazard Classification.
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All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Zinc Compounds	CAS-No.	≤ 2%
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15.2. International regulations

CANADA

Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)

Listed on the Canadian DSL (Domestic Substances List)

1-(N,N-bis(2-ethylhexyl)aminomethyl)-1,2,4-triazole (91273-04-0)

Listed on the Canadian DSL (Domestic Substances List)

zinc O,O,O',O'-tetrakis(1,3-dimethylbutyl) bis(phosphorodithioate) (2215-35-2)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

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Listed on the Canadian DSL (Domestic Substances List)

15.3. State regulations



WARNING:

This product can expose you to Ethylene glycol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

SECTION 16 Other information

According to 29CFR 1910.1200 OSHA Hazard Communication Standard (HCS 2024) and the Hazardous Products Regulation (WHMIS 2015 rev 2022)

Revision date : 7/30/2025

Issue date : 7/16/2023

Data sources : This safety data sheet was compiled with data and information from the following sources :
ECHA, ECOSAR, HSDB, SIDS SIAP, CESAR, Chemical DB.

Full text of hazard classes and H-statements

H317	May cause an allergic skin reaction
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H319	Causes serious eye irritation
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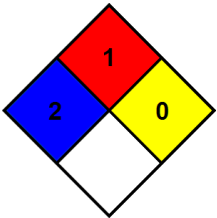
Full text of hazard classes and H-statements	
H402	Harmful to aquatic life
H412	Harmful to aquatic life with long lasting effects

- NFPA health hazard

: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
- NFPA fire hazard

: 1 - Materials that must be preheated before ignition can occur.
- NFPA reactivity

: 0 - Material that in themselves are normally stable, even under fire conditions.



Safety Data Sheet (SDS), USA

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.