



Armado Synth MSP 5W-40

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 17-5-2018 Revision date: 18-6-2024 Supersedes version of: 28-9-2022 Version: 1.4

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Trade name : Armado Synth MSP 5W-40
Product code : 01.30.76
Type of product : Lubricants
Product group : Trade product

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

1.2.1. Relevant identified uses

Main use category : Industrial use, Professional use, Consumer use
Use of the substance/mixture : Engine oil

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Kroon-Oil B.V.
Dollegoorweg 15
NL 7602 EC Almelo
Netherlands
T 0031 (0)546 81 81 65
vib@kroon-oil.nl

1.4. Emergency telephone number

Country/Area	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9	+353 1 809 2566 (Healthcare professionals- 24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	
United Kingdom	National Poisons Information Service (Cardiff Centre) University Hospital Llandough	Penlan Road CF64 2XX	0344 892 0111	Only for healthcare professionals

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

EUH-statements : EUH210 - Safety data sheet available on request.

2.3. Other hazards

Contains no PBT and/or vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

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Component	
Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate) (93819-94-4), Distillates (petroleum), solvent-dewaxed light paraffinic (64742-56-9), Distillates (petroleum), hydrotreated light paraffinic (64742-55-8), Phenol, dodecyl-, branched (121158-58-5)
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate) (93819-94-4), Distillates (petroleum), solvent-dewaxed light paraffinic (64742-56-9), Distillates (petroleum), hydrotreated light paraffinic (64742-55-8), Phenol, dodecyl-, branched (121158-58-5)

The mixture contains substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

Component	
Substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605	Phenol, dodecyl-, branched (121158-58-5)

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Comments : Highly refined mineral oils and additives.

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Distillates (petroleum), hydrotreated heavy paraffinic (Note L)	CAS-No.: 64742-54-7 EC-No.: 265-157-1 EC Index-No.: 649-467-00-8 REACH-no: 01-2119484627-25	50 – 80	Asp. Tox. 1, H304
Dec-1-ene, trimers, hydrogenated	CAS-No.: 157707-86-3 EC-No.: 500-393-3 REACH-no: 01-2119493949-12	5 – 10	Asp. Tox. 1, H304
Distillates (petroleum), solvent-dewaxed heavy paraffinic (Note L)	CAS-No.: 64742-65-0 EC-No.: 265-169-7 EC Index-No.: 649-474-00-6 REACH-no: 01-2119471299-27	0,1 – 5	Asp. Tox. 1, H304
Distillates (petroleum), solvent-dewaxed light paraffinic substance with a Community workplace exposure limit (Note L)	CAS-No.: 64742-56-9 EC-No.: 265-159-2 EC Index-No.: 649-469-00-9 REACH-no: 01-2119480132-48	0,1 – 5	Asp. Tox. 1, H304

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Bis(nonylphenyl)amine	CAS-No.: 36878-20-3 EC-No.: 253-249-4 REACH-no: 01-2119488911-28	0,3 – 2,5	Aquatic Chronic 4, H413
Paraffin oils (petroleum), catalytic dewaxed heavy (Note L)	CAS-No.: 64742-70-7 EC-No.: 265-174-4 REACH-no: 01-2119487080-42	0,1 – 2,5	Asp. Tox. 1, H304
Distillates (petroleum), hydrotreated light paraffinic (Note L)	CAS-No.: 64742-55-8 EC-No.: 265-158-7 EC Index-No.: 649-468-00-3 REACH-no: 01-2119487077-29	0,3 – 2,5	Asp. Tox. 1, H304
Distillates (petroleum), solvent-refined light paraffinic (Note L)	CAS-No.: 64741-89-5 EC-No.: 265-091-3 EC Index-No.: 649-455-00-2 REACH-no: 01-2119487067-30	0,3 – 2,5	Asp. Tox. 1, H304
zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate)	CAS-No.: 93819-94-4 EC-No.: 298-577-9 REACH-no: 01-2119543726-33	0,3 – 2,5	Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 2, H411
Phenol, dodecyl-, branched (Impurity) substance listed as REACH Candidate (Phenol, alkylation products (mainly in para position) with C12-rich branched alkyl chains from oligomerisation, covering any individual isomers and/ or combinations thereof (PDDP)) substance identified as having endocrine disrupting properties	CAS-No.: 121158-58-5 EC-No.: 310-154-3 EC Index-No.: 604-092-00-9 REACH-no: 01-2119513207-49	< 0,3	Skin Corr. 1C, H314 Eye Dam. 1, H318 Repr. 1B, H360F Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=10)

Specific concentration limits:

Name	Product identifier	Specific concentration limits (%)
zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate)	CAS-No.: 93819-94-4 EC-No.: 298-577-9 REACH-no: 01-2119543726-33	(6,25 ≤ C ≤ 100) Skin Irrit. 2, H315 (10 ≤ C < 12,5) Eye Irrit. 2, H319 (12,5 ≤ C ≤ 100) Eye Dam. 1, H318

Comments : The highly refined mineral oil contains <3% (w/w) DMSOextract, according to IP346.

Note L: The harmonised classification as a carcinogen applies unless it can be shown that the substance contains less than 3 % of dimethyl sulphoxide extract as measured by IP 346 ("Determination of polycyclic aromatics in unused lubricating base oils and asphaltene free petroleum fractions – Dimethyl sulphoxide extraction refractive index method" Institute of Petroleum, London), in which case a classification in accordance with Title II of this Regulation shall be performed also for that hazard class.

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : If you feel unwell, seek medical advice.

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First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects	: No additional information available.
Symptoms/effects after inhalation	: Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.
Symptoms/effects after skin contact	: None under normal conditions.
Symptoms/effects after eye contact	: None under normal conditions.
Symptoms/effects after ingestion	: None under normal conditions.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: Combustible liquid.
Explosion hazard	: No direct explosion hazard.
Hazardous decomposition products in case of fire	: Toxic fumes may be released. Incomplete combustion releases dangerous carbon monoxide, carbon dioxide and other toxic gases.

5.3. Advice for firefighters

Firefighting instructions	: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
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

General measures	: Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.
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6.1.1. For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment.
Emergency procedures	: Ventilate spillage area.

6.1.2. 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".
Emergency procedures	: Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment	: Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible.
Methods for cleaning up	: Take up liquid spill into absorbent material.

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Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.
Precautions for safe handling : Provide good ventilation in process area to prevent formation of vapour.
Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep in a cool, well-ventilated place away from heat.
Storage conditions : Keep container closed when not in use. Keep in a cool, well-ventilated place away from heat.
Storage temperature : 0 – 40 °C
Packaging materials : Store always product in container of same material as original container.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

Armado Synth MSP 5W-40	
EU - Indicative Occupational Exposure Limit (IOEL)	
Exposure limits/standards for materials that can be formed when handling this product. When mists/aerosols can occur the following is recommended	5 mg/m ³ - ACGIH TLV (inhalable fraction).
Distillates (petroleum), solvent-dewaxed light paraffinic (64742-56-9)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	5 mg/m ³

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

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8.2.2. Personal protection equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Safety glasses

Eye protection			
Type	Field of application	Characteristics	Standard
Safety glasses	Droplet	clear	EN 166

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

Protective gloves

Hand protection					
Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Reusable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	≥0.35		EN ISO 374

Other skin protection

Materials for protective clothing:

Wear suitable protective clothing

8.2.2.3. Respiratory protection

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Not available
Odour	: Not available
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: -36 °C - ASTM D5950 (pour point)
Boiling point	: Not available
Flammability	: Not applicable

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Explosive properties	: Presents no particular fire or explosion hazard.
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: 220 °C - ASTM D92 (COC)
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: Not available
Viscosity, kinematic	: 88,4 mm ² /s (40 °C) - ASTM D7042
Solubility	: Water: Insoluble / Slightly miscible
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Density	: 0,856 kg/l (15 °C) - ASTM D4052
Relative density	: Not available
Relative vapour density at 20°C	: Not available
Particle characteristics	: Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

VOC content : 0 %

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. Reacts violently with (strong) oxidizers.

10.4. Conditions to avoid

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

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No decomposition if stored normally.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

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 rabbit	> 2000 mg/kg

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Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)	
LC50 Inhalation - Rat	> 5,53 mg/l/4h
zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate) (93819-94-4)	
LD50 oral rat	2600 mg/kg bodyweight Animal: rat, Animal sex: male, Remarks on results: other:
LD50 dermal rabbit	> 3160 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Remarks on results: other:
LC50 Inhalation - Rat	> 2 mg/l (1h) - OECD403
Distillates (petroleum), solvent-dewaxed heavy paraffinic (64742-65-0)	
LD50 oral rat	> 5000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), Guideline: OECD Guideline 420 (Acute Oral Toxicity - Fixed Dose Method)
Bis(nonylphenyl)amine (36878-20-3)	
LD50 oral rat	> 5000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), Remarks on results: other:
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402 method)
Distillates (petroleum), solvent-dewaxed light paraffinic (64742-56-9)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 5000 mg/kg
LC50 Inhalation - Rat (Dust/Mist)	5,53 mg/l/4h
Dec-1-ene, trimers, hydrogenated (157707-86-3)	
LD50 oral rat	> 2000 mg/kg bodyweight
LD50 dermal	> 2000 mg/kg bodyweight
Distillates (petroleum), hydrotreated light paraffinic (64742-55-8)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 Inhalation - Rat (Dust/Mist)	5,53 mg/l/4h
Distillates (petroleum), solvent-refined light paraffinic (64741-89-5)	
LD50 oral rat	> 5000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), Guideline: OECD Guideline 420 (Acute Oral Toxicity - Fixed Dose Method)
LD50 dermal rabbit	> 2000 mg/kg bodyweight
LC50 Inhalation - Rat	> 5000 mg/m ³
Phenol, dodecyl-, branched (121158-58-5)	
LD50 oral rat	2100 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 1620 - 2730
LD50 dermal rabbit	≈ 15000 mg/kg bodyweight Animal: rabbit, Animal sex: male, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified

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STOT-repeated exposure : Not classified

Distillates (petroleum), solvent-dewaxed heavy paraffinic (64742-65-0)

LOAEL (oral, rat, 90 days)	125 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (dermal, rat/rabbit, 90 days)	≈ 1000 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)

Distillates (petroleum), solvent-dewaxed light paraffinic (64742-56-9)

LOAEL (oral, rat, 90 days)	125 mg/kg bodyweight/day
NOAEL (subchronic, oral, animal/male, 90 days)	≥ 2000 mg/kg bodyweight
NOAEL (subchronic, oral, animal/female, 90 days)	≥ 2000 mg/kg bodyweight

Distillates (petroleum), hydrotreated light paraffinic (64742-55-8)

LOAEL (oral, rat, 90 days)	125 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
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Distillates (petroleum), solvent-refined light paraffinic (64741-89-5)

LOAEL (oral, rat, 90 days)	125 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
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Aspiration hazard : Not classified

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Viscosity, kinematic	88,4 mm ² /s (40 °C) - ASTM D7042
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Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)

Viscosity, kinematic	< 20,5 mm ² /s
Aliphatic, alicyclic or aromatic hydrocarbon	Yes

Distillates (petroleum), solvent-dewaxed heavy paraffinic (64742-65-0)

Viscosity, kinematic	< 20,5 mm ² /s @40°C
Aliphatic, alicyclic or aromatic hydrocarbon	Yes

Distillates (petroleum), solvent-dewaxed light paraffinic (64742-56-9)

Viscosity, kinematic	< 20,5 mm ² /s
Aliphatic, alicyclic or aromatic hydrocarbon	Yes

Paraffin oils (petroleum), catalytic dewaxed heavy (64742-70-7)

Viscosity, kinematic	< 20,5 mm ² /s
Hydrocarbon	Yes
Aliphatic, alicyclic or aromatic hydrocarbon	Yes

Distillates (petroleum), hydrotreated light paraffinic (64742-55-8)

Viscosity, kinematic	< 20,5 mm ² /s
Aliphatic, alicyclic or aromatic hydrocarbon	Yes

Distillates (petroleum), solvent-refined light paraffinic (64741-89-5)

Viscosity, kinematic	< 20,5 mm ² /s (40 °C) - ASTM D7042
Aliphatic, alicyclic or aromatic hydrocarbon	Yes

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11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Component	
Phenol, dodecyl-, branched (121158-58-5)	The substance is identified for having endocrine disrupting properties but there is no additional data available (see section 2.3)

11.2.2. Other information

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

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

LC50 - Fish [1]	> 100 mg/l (Pimephales promelas, 96h) (OECD 203 method)
EC50 - Crustacea [1]	> 10000 mg/l (Gammarus pulex, 48h) (OECD 202 method)
EC50 72h - Algae [1]	> 100 mg/l
NOEC (acute)	≥ 100 mg/l (Pseudokirchnerella subcapitata, 72h) (OECD 201 method)
NOEC chronic crustacea	10 mg/l (Daphnia magna, 21d) (OECD 211 method)

zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate) (93819-94-4)

LC50 - Fish [1]	4,5 mg/l 96 h (Oncorhynchus mykiss) [OECD 203]
EC50 - Crustacea [1]	5,4 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	2,1 mg/l Test organisms (species): other:
EC50 72h - Algae [2]	2 mg/l Test organisms (species): other:
EC50 96h - Algae [1]	2,1 mg/l Test organisms (species): other:
EC50 96h - Algae [2]	2 mg/l Test organisms (species): other:
ErC50 algae	2,1 mg/l 96 h (Selenastrum capricornutum) [OECD 201]

Bis(nonylphenyl)amine (36878-20-3)

LC50 - Fish [1]	> 100 mg/l Brachydanio rerio (zebra-fish)
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 100 mg/l
NOEC chronic crustacea	> 10 mg/l
NOEC chronic algae	> 10 mg/l

Dec-1-ene, trimers, hydrogenated (157707-86-3)

LC50 - Fish [1]	> 1000 mg/l
EC50 - Crustacea [1]	> 1000 mg/l

Distillates (petroleum), hydrotreated light paraffinic (64742-55-8)

LC50 - Fish [1]	> 100 mg/l 96h
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Distillates (petroleum), hydrotreated light paraffinic (64742-55-8)	
EC50 - Crustacea [1]	> 10000 mg/l
EC50 72h - Algae [1]	≥ 100 mg/l
NOEC chronic crustacea	10 mg/l 21d
Phenol, dodecyl-, branched (121158-58-5)	
EC50 - Crustacea [1]	0,037 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	0,15 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 72h - Algae [2]	0,36 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
LOEC (chronic)	0,012 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	0,0037 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
Additional information	This material contains one or more components that have a branched alkylphenol impurity that is highly toxic to aquatic organisms (disclosed in section 3). The components containing the impurity have been tested and are not toxic to aquatic organisms. Therefore the data in Section 3 for the alkylphenol impurity should not be used to classify the product for aquatic toxicity.

12.2. Persistence and degradability

Armado Synth MSP 5W-40	
Persistence and degradability	Not rapidly degradable
Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)	
Persistence and degradability	Not rapidly degradable
Biodegradation	31 % (28d) (OECD 301F method)
zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate) (93819-94-4)	
Persistence and degradability	Not readily biodegradable.
Biodegradation	1,5 % 28 d - 10mg/l [OECD 301 B]
Distillates (petroleum), solvent-dewaxed heavy paraffinic (64742-65-0)	
Persistence and degradability	Not rapidly degradable
Bis(nonylphenyl)amine (36878-20-3)	
Persistence and degradability	Not rapidly degradable
Biodegradation	1 % (test concentration 20,1 mg/l)
Distillates (petroleum), solvent-dewaxed light paraffinic (64742-56-9)	
Persistence and degradability	Potentially biodegradable.
Paraffin oils (petroleum), catalytic dewaxed heavy (64742-70-7)	
Persistence and degradability	Not rapidly degradable
Dec-1-ene, trimers, hydrogenated (157707-86-3)	
Persistence and degradability	Not rapidly degradable
Distillates (petroleum), hydrotreated light paraffinic (64742-55-8)	
Persistence and degradability	Not established.

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Distillates (petroleum), hydrotreated light paraffinic (64742-55-8)

Biodegradation	31 % (OECD 301F method)
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Distillates (petroleum), solvent-refined light paraffinic (64741-89-5)

Persistence and degradability	Not rapidly degradable
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Phenol, dodecyl-, branched (121158-58-5)

Persistence and degradability	Not rapidly degradable
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12.3. Bioaccumulative potential

zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate) (93819-94-4)

Partition coefficient n-octanol/water (Log Pow)	0,9 (23 °C)
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Distillates (petroleum), solvent-dewaxed light paraffinic (64742-56-9)

Partition coefficient n-octanol/water (Log Pow)	> 3
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Dec-1-ene, trimers, hydrogenated (157707-86-3)

Partition coefficient n-octanol/water (Log Pow)	5 @20°C
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Distillates (petroleum), hydrotreated light paraffinic (64742-55-8)

Partition coefficient n-octanol/water (Log Pow)	> 6
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Bioaccumulative potential	Not established.
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12.4. Mobility in soil

Distillates (petroleum), solvent-dewaxed light paraffinic (64742-56-9)

Ecology - soil	Insoluble in water.
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12.5. Results of PBT and vPvB assessment

Component

Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate) (93819-94-4), Distillates (petroleum), solvent-dewaxed light paraffinic (64742-56-9), Distillates (petroleum), hydrotreated light paraffinic (64742-55-8), Phenol, dodecyl-, branched (121158-58-5)
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Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate) (93819-94-4), Distillates (petroleum), solvent-dewaxed light paraffinic (64742-56-9), Distillates (petroleum), hydrotreated light paraffinic (64742-55-8), Phenol, dodecyl-, branched (121158-58-5)
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12.6. Endocrine disrupting properties

Component

Phenol, dodecyl-, branched (121158-58-5)	The substance is identified for having endocrine disrupting properties but there is no additional data available (see section 2.3)
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12.7. Other adverse effects

No additional information available

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional waste regulation	: Disposal must be done according to official regulations.
Waste treatment methods	: Do not allow into drains or water courses. Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
Additional information	: Do not re-use empty containers.
European List of Waste (LoW, EC 2000/532)	: 13 02 05* - mineral-based non-chlorinated engine, gear and lubricating oils
HP Code	: HP4 - "Irritant – skin irritation and eye damage:" waste which on application can cause skin irritation or damage to the eye. HP14 - "Ecotoxic:" waste which presents or may present immediate or delayed risks for one or more sectors of the environment

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not regulated for transport				
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

Inland waterway transport

Not regulated

Rail transport

Not regulated

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

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SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)		
Reference code	Applicable on	Entry title or description
3(b)	Distillates (petroleum), hydrotreated heavy paraffinic ; zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate) ; Distillates (petroleum), solvent-dewaxed heavy paraffinic ; Distillates (petroleum), solvent-dewaxed light paraffinic ; Paraffin oils (petroleum), catalytic dewaxed heavy ; Dec-1-ene, trimers, hydrogenated ; Distillates (petroleum), hydrotreated light paraffinic ; Distillates (petroleum), solvent-refined light paraffinic ; Phenol, dodecyl-, branched	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10
3(c)	zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate) ; Bis(nonylphenyl)amine ; Phenol, dodecyl-, branched	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard class 4.1
30.	Phenol, dodecyl-, branched	Substances which are classified as reproductive toxicant category 1A or 1B in Part 3 of Annex VI to Regulation (EC) No 1272/2008 and are listed in Appendix 5 or Appendix 6, respectively.

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains substance(s) listed on the REACH Candidate List in concentrations $\geq 0.1\%$ or SCL: Phenol, alkylation products (mainly in para position) with C12-rich branched alkyl chains from oligomerisation, covering any individual isomers and/ or combinations thereof (PDDP) (EC 310-154-3, CAS 121158-58-5)

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

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Dual-Use Regulation (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

VOC Directive (2004/42)

VOC content : 0 %

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

For the following substances of this mixture a chemical safety assessment has been carried out:

Distillates (petroleum), solvent-dewaxed light paraffinic

SECTION 16: Other information

Indication of changes			
Section	Changed item	Change	Comments
	Revision date	Modified	
	Supersedes	Modified	
	Type of product	Added	
1.2	Function or use category	Removed	
4.1	First-aid measures general	Added	
4.2	Symptoms/effects after skin contact	Added	
4.2	Symptoms/effects after inhalation	Added	
4.2	Symptoms/effects after ingestion	Added	
4.2	Symptoms/effects after eye contact	Added	
5.2	Explosion hazard	Added	
5.3	Firefighting instructions	Added	
6.1	Emergency procedures	Added	
6.1	Protective equipment	Added	
6.1	General measures	Added	
6.3	For containment	Added	
7.1	Additional hazards when processed	Added	
7.2	Technical measures	Added	
7.2	Packaging materials	Added	
8.2	Personal protective equipment	Added	
13.1	Sewage disposal recommendations	Added	
13.1	Additional information	Added	

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Indication of changes			
Section	Changed item	Change	Comments
13.1	Regional waste regulation	Added	
13.1	H code	Added	

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative

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Abbreviations and acronyms:

ED	Endocrine disrupting properties
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Full text of H- and EUH-statements:

Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment – Chronic Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Aquatic Chronic 4	Hazardous to the aquatic environment – Chronic Hazard, Category 4
Asp. Tox. 1	Aspiration hazard, Category 1
EUH210	Safety data sheet available on request.
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H360F	May damage fertility.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.
Repr. 1B	Reproductive toxicity, Category 1B
Skin Corr. 1C	Skin corrosion/irritation, Category 1, Sub-Category 1C
Skin Irrit. 2	Skin corrosion/irritation, Category 2

Safety Data Sheet (SDS), EU

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.