



Armado Synth MSP 5W-40

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830
Issue date: 17-5-2018 Revision date: 21-5-2021 Supersedes version of: 8-2-2021 Version: 1.2

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 BV
Dollegoorweg 15
7602 EC Almelo - Netherlands
T 0031 (0)546 81 81 65
vib@kroon-oil.nl

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+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) Gwenwyn Ward, Llandough Hospital	Penarth CF64 2XX Cardiff	0344 892 0111	

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

No additional information available

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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
1-Decene, homopolymer, hydrogenated	(CAS-No.) 68037-01-4 (EC-No.) 500-183-1 (REACH-no) 01-2119486452-34	5 – 10	Asp. Tox. 1, H304
Distillates (petroleum), solvent-dewaxed heavy paraffinic (Note L)	(CAS-No.) 64742-65-0 (EC-No.) 265-169-7 (REACH-no) 01-2119471299-27	0,1 – 2,5	Asp. Tox. 1, H304
Bis(nonylphenyl)amine	(CAS-No.) 36878-20-3 (EC-No.) 253-249-4 (REACH-no) 01-2119488911-28	0,1 – 2,5	Aquatic Chronic 4, H413
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 – 2,5	Asp. Tox. 1, H304
Paraffin oils (petroleum), catalytic dewaxed heavy	(CAS-No.) 64742-70-7 (EC-No.) 265-174-4 (REACH-no) 01-2119487080-42	0,1 – 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	0,1 – 2,5	Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 2, H411

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 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.

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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.
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

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

6.1.1. For non-emergency personnel

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".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.
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

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

Storage conditions : Keep container closed when not in use. Keep in a cool, well-ventilated place away from heat.
Storage temperature : 0 – 40 °C

7.3. Specific end use(s)

No additional information available

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

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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/m³ - ACGIH TLV (inhalable fraction).

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

EU - Indicative Occupational Exposure Limit (IOEL)

IOEL TWA

5 mg/m³

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.

8.2.2. Personal protection equipment

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Safety glasses

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

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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	: No data available
Odour	: No data available
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: Not applicable
Freezing point	: -36 °C - ASTM D5950 (pour point)
Boiling point	: No data available
Flash point	: 220 °C - ASTM D92 (COC)
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 0,856 kg/l (15 °C) - ASTM D4052
Solubility	: Water : Practically not miscible.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: 88,4 mm ² /s (40 °C) - ASTM D7279
Viscosity, dynamic	: No data available
Explosive properties	: Presents no particular fire or explosion hazard.
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

VOC content : 0 %

SECTION 10: Stability and reactivity

10.1. Reactivity

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

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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 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 rabbit	> 2000 mg/kg
LC50 Inhalation - Rat	> 5,53 mg/l/4h

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

LD50 oral	2600 mg/kg
LD50 dermal	> 3160 mg/kg [OECD 402]

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

LD50 oral rat	> 5000 mg/kg bodyweight (OECD 401 method)
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402 method)

1-Decene, homopolymer, hydrogenated (68037-01-4)

LD50 oral rat	> 5000 mg/kg bodyweight
LD50 dermal rat	> 2000 mg/kg
LC50 Inhalation - Rat (Dust/Mist)	> 5,2 mg/l/4h

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

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : Not classified

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Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified

1-Decene, homopolymer, hydrogenated (68037-01-4)

NOAEL (oral, rat, 90 days)	> 1000 mg/kg bodyweight/day
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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

Aspiration hazard : Not classified

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Viscosity, kinematic	88,4 mm ² /s (40 °C) - ASTM D7279
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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 - Crustacea [2]	> 10000 mg/l (Daphnia magna, 48h) (OECD 202 method)
NOEC (acute)	≥ 100 mg/l (Pseudokirchnerella subcapitata, 72h) (OECD 201 method)
NOEC chronic fish	≥ 1000 mg/l (Oncorhynchus mykiss - QSAR Petrotox, 14/28d)
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 48 h (Daphnia magna) [OECD 202]
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 (OECD 202 method)

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EC50 72h - Algae [1]	> 100 mg/l
NOEC chronic crustacea	> 10 mg/l
NOEC chronic algae	> 10 mg/l

1-Decene, homopolymer, hydrogenated (68037-01-4)

LC50 - Fish [1]	> 1000 mg/l
EC50 - Crustacea [1]	> 190 mg/l

12.2. Persistence and degradability

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

Biodegradation	31 % (28d) (OECD 301F method)
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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]

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

Biodegradation	1 % (test concentration 20,1 mg/l)
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Distillates (petroleum), solvent-dewaxed light paraffinic (64742-56-9)

Persistence and degradability	Potentially biodegradable.
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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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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

Distillates (petroleum), solvent-dewaxed light paraffinic (64742-56-9)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate) (93819-94-4)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

No additional information available

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

- Waste treatment methods : Do not allow into drains or water courses. Dispose of contents/container in accordance with licensed collector's sorting instructions.
- Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.
- European List of Waste (LoW) code : 13 02 05* - mineral-based non-chlorinated engine, gear and lubricating oils

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
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. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

Reference code	Applicable on
3.	zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate) ; Bis(nonylphenyl)amine

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3(b)	Distillates (petroleum), hydrotreated heavy paraffinic ; zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate) ; Distillates (petroleum), solvent-dewaxed heavy paraffinic
3(c)	zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate) ; Bis(nonylphenyl)amine

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

VOC content : 0 %

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	
3	Composition/information on ingredients	Modified	

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

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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
ED	Endocrine disrupting properties

Full text of H- and EUH-statements:	
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
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.
EUH210	Safety data sheet available on request.

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.