



SAFETY DATA SHEET

NESTE INDUSTRIAL GEAR S 320 EP

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

1.1. Product identifier

Product name	NESTE INDUSTRIAL GEAR S 320 EP
Product number	ID 18997
Internal identification	3490
Synonyms; trade names	Previous product name: NESTE VAIHTEISTO S 320 EP, product number 3489, ID 16289.

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

Identified uses	Lubricant.
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1.3. Details of the supplier of the safety data sheet

Supplier

Neste Markkinointi Oy
Keilaranta 21, Espoo, PL 95, FIN-00095 NESTE, FINLAND
Tel. +358 10 45811
lubetec@neste.com

1.4. Emergency telephone number

National emergency telephone number +358-9-471 977, +358-9-4711, Poison Information Centre number

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards	Not Classified
Health hazards	Skin Sens. 1 - H317
Environmental hazards	Aquatic Chronic 3 - H412

2.2. Label elements

Pictogram



Signal word

Warning

Hazard statements

H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P261 Avoid breathing vapour/ spray.
P273 Avoid release to the environment.
P501 Dispose of contents/ container in accordance with national regulations.
P102 Keep out of reach of children.
P280 Wear protective gloves.

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Contains Amines, C12-14-tert-alkyl

2.3. Other hazards

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu and pentyl) esters, zinc salts	0,25 - < 0,5 %
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CAS number: 68988-45-4	EC number: 273-527-9
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Classification

Skin Irrit. 2 - H315
 Eye Dam. 1 - H318
 Aquatic Chronic 2 - H411

Amines, C12-14-tert-alkyl	0,1 - < 0,25 %
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CAS number: 68955-53-3	EC number: 273-279-1	REACH registration number: 01-2119456798-18-XXXX
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M factor (Acute) = 1	M factor (Chronic) = 1
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Classification

Acute Tox. 4 - H302
 Acute Tox. 3 - H311
 Acute Tox. 2 - H330
 Skin Corr. 1B - H314
 Eye Dam. 1 - H318
 Skin Sens. 1A - H317
 Aquatic Acute 1 - H400
 Aquatic Chronic 1 - H410

Oleylamine	0,025 - < 0,1 %
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CAS number: 112-90-3	EC number: 204-015-5
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M factor (Acute) = 10	M factor (Chronic) = 10
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Classification

Acute Tox. 4 - H302
 Skin Corr. 1B - H314
 STOT SE 3 - H335
 STOT RE 2 - H373
 Asp. Tox. 1 - H304
 Aquatic Acute 1 - H400
 Aquatic Chronic 1 - H410

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation Remove person to fresh air and keep comfortable for breathing. Get medical attention if symptoms are severe or persist.

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Ingestion	Rinse mouth. Do not induce vomiting unless under the direction of medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms are severe or persist.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention promptly if symptoms occur after washing.
Eye contact	Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation persists after washing.

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

General information The product contains a sensitising substance. May cause an allergic skin reaction.

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

Notes for the doctor Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Water spray, foam, dry powder or carbon dioxide.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards None known.

Hazardous combustion products Carbon dioxide (CO₂). Carbon monoxide (CO).

5.3. Advice for firefighters

Protective actions during firefighting Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Contain and collect extinguishing water. Avoid discharge into drains.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear suitable protective clothing as protection against splashing or contamination.

For emergency responders Keep unnecessary and unprotected personnel away from the spillage.

6.2. Environmental precautions

Environmental precautions Stop leak if safe to do so. Avoid the spillage or runoff entering drains, sewers or watercourses. Contain spillage with sand, earth or other suitable non-combustible material. Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Absorb spillage with sand or other inert absorbent. Place waste in labelled, sealed containers. Dispose of waste via a licensed waste disposal contractor.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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Usage precautions Avoid inhalation of vapours and spray/mists. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. All handling should only take place in well-ventilated areas. Take precautionary measures against static discharges. For personal protection, see Section 8.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place. Keep containers upright. Keep away from food, drink and animal feeding stuffs.

7.3. Specific end use(s)

Specific end use(s) Not known.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

8.2. Exposure controls

Appropriate engineering controls All handling should only take place in well-ventilated areas. Provide eyewash station and safety shower.

Eye/face protection Tight-fitting safety glasses.

Hand protection Wear protective gloves. It is recommended that gloves are made of the following material: Nitrile rubber. Butyl rubber.

Other skin and body protection Wear suitable protective clothing as protection against splashing or contamination.

Respiratory protection No specific recommendations.

Environmental exposure controls Store in a demarcated bunded area to prevent release to drains and/or watercourses.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Tan.
Odour	Petroleum.
Odour threshold	-
pH	-
Melting point	-
Initial boiling point and range	> 350°C
Flash point	205°C
Flammability (solid, gas)	-
Upper/lower flammability or explosive limits	-
Vapour pressure	-
Vapour density	-
Relative density	0,855 @ 20°C
Solubility(ies)	Insoluble in water.

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Partition coefficient	-
Auto-ignition temperature	-
Decomposition Temperature	-
Viscosity	320 mm ² /s @ 40°C
Explosive properties	-
Oxidising properties	-

9.2. Other information

Other information	Not known.
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	There are no known reactivity hazards associated with this product.
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10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	No potentially hazardous reactions known.
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10.4. Conditions to avoid

Conditions to avoid	Avoid exposure to high temperatures or direct sunlight.
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10.5. Incompatible materials

Materials to avoid	Oxidising agents.
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10.6. Hazardous decomposition products

Hazardous decomposition products	Does not decompose when used and stored as recommended.
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects	Based on available data the classification criteria are not met.
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Acute toxicity - dermal

Notes (dermal LD₅₀)	LD ₅₀ > 2000 mg/kg, Dermal, Rabbit
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Skin corrosion/irritation

Skin corrosion/irritation	Based on available data the classification criteria are not met.
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Serious eye damage/irritation

Serious eye damage/irritation	Based on available data the classification criteria are not met.
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Respiratory sensitisation

Respiratory sensitisation	Based on available data the classification criteria are not met.
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Skin sensitisation

Skin sensitisation	The product contains a sensitising substance. May cause an allergic skin reaction.
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Germ cell mutagenicity

Genotoxicity - in vivo	Based on available data the classification criteria are not met.
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Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Reproductive toxicity - development Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Based on available data the classification criteria are not met.

Aspiration hazard

Aspiration hazard Based on available data the classification criteria are not met.

Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu and pentyl) esters, zinc salts

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ 3600 mg/kg, Oral, Rat

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ 13660 mg/kg, Dermal, Rabbit (OECD TG 402)

Acute toxicity - inhalation

Notes (inhalation LC₅₀) LC₅₀ (4h) > 0,5 mg/l, Inhalation, Rat (OECD TG 403)

Amines, C12-14-tert-alkyl

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ 612 mg/kg, Oral, Rat (OECD TG 401)

ATE oral (mg/kg) 500.0

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ 251 mg/kg, Dermal, Rat (OECD TG 402)

ATE dermal (mg/kg) 3,000.0

Acute toxicity - inhalation

Notes (inhalation LC₅₀) LC₅₀ 1,19 mg/l, (4h), Inhalation, Rat (OECD TG 403)

ATE inhalation (vapours mg/l) 5.0

Oleylamine

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ 1950 mg/kg, Oral, Rat

ATE oral (mg/kg) 500.0

SECTION 12: Ecological Information

12.1. Toxicity

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Toxicity

Harmful to aquatic life with long lasting effects. The product contains a substance which is toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu and pentyl) esters, zinc salts

Acute toxicity - fish	LC ₅₀ , 96 hours: 46 mg/l, Cyprinodon variegatus (Sheepshead minnow) (OECD TG 203)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 5,4 mg/l, Daphnia magna (OECD TG 202)
Acute toxicity - aquatic plants	EC ₅₀ , 72 hours: 2,1 mg/l, Selenastrum capricornutum (OECD TG 201)
Acute toxicity - microorganisms	EC ₅₀ , 3 hours: > 10000 mg/l, Activated sludge (OECD TG 209)
Chronic toxicity - aquatic invertebrates	NOEC, 21 days: 0,8 mg/l, Daphnia magna (OECD TG 211)

Amines, C12-14-tert-alkyl

Acute aquatic toxicity

LE(C)₅₀ 0.1 < L(E)C₅₀ ≤ 1

M factor (Acute) 1

Acute toxicity - fish LC₅₀, 96 hours: 1,3 mg/l, Onchorhynchus mykiss (Rainbow trout)
(OECD TG 203)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 2,5 mg/l, Daphnia magna

Acute toxicity - aquatic plants ErC₅₀, 72 hours: 0,44 mg/l, Pseudokirchneriella subcapitata
NOEC, 72 hours: 0,05 mg/l, Pseudokirchneriella subcapitata
(OECD TG 201)

Chronic aquatic toxicity

M factor (Chronic) 1

Chronic toxicity - fish early life stage NOEC, 96 days: 0,078 mg/l, Onchorhynchus mykiss (Rainbow trout)
(OECD TG 210)

Oleylamine

Acute aquatic toxicity

LE(C)₅₀ 0.01 < L(E)C₅₀ ≤ 0.1

M factor (Acute) 10

Acute toxicity - fish LC₅₀, 96 hours: 0,11 mg/l, Pimephales promelas (Fat-head Minnow)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 0,011 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 72 hours: 0,083 mg/l, Desmodemus subspicatus
NOEC, 96 hours: 0,01 mg/l, Pseudokirchneriella subcapitata

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Chronic aquatic toxicity

M factor (Chronic) 10

12.2. Persistence and degradability

Persistence and degradability No data available.

Biodegradation No data available.

Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu and pentyl) esters, zinc salts

Biodegradation 1,5 %, 28 d
(OECD TG 301 B)

Amines, C12-14-tert-alkyl

Biodegradation 22 %, 28 d
(OECD TG 301D)

Oleylamine

Biodegradation 44 %, 28 d

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient -

Amines, C12-14-tert-alkyl

Bioaccumulative potential log Pow 2,9

Oleylamine

Bioaccumulative potential (BCF) > 500

Partition coefficient log Pow: (Estimated), > 4

12.4. Mobility in soil

Mobility No data available.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment No data available.

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Do not reuse empty containers.

SECTION 14: Transport information

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General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number

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UN No. (ADR/RID) -

14.2. UN proper shipping name

Proper shipping name (ADR/RID) -

14.3. Transport hazard class(es)

ADR/RID class -

14.4. Packing group

ADR/RID packing group -

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

SECTION 15: Regulatory information

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

EU legislation Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).
Commission Regulation (EU) No 2015/830 of 28 May 2015.
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

15.2. Chemical safety assessment

No data available.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet ATE = Acute Toxicity Estimate

Key literature references and sources for data The manufacturer's SDS. 4.4.2016

Revision comments Product name change.

Revision date 01/09/2017

Supersedes date 03/05/2016

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SDS number

4826

Hazard statements in full

H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H330 Fatal if inhaled.
H335 May cause respiratory irritation.
H373 May cause damage to organs through prolonged or repeated exposure.
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.
H412 Harmful to aquatic life with long lasting effects.