

SAFETY DATA SHEET

ADDITIN RC 9502



Version 1.0 Revision Date: 12/18/2018 SDS Number: 103000012284 Date of previous issue: 11/29/2017
Country / Language: US / EN

SECTION 1. IDENTIFICATION

Product name : ADDITIN RC 9502
Material number : 58175926
Recommended use : Additive for lubricants

Manufacturer or supplier's details

Supplier : LANXESS Corporation
Product Safety & Regulatory Affairs
111 RIDC Park West Drive
PittsburghPA 15275-1112
USA
Telephone : +1800LANXESS
+14128091000 (international)
Emergency telephone : CHEMTREC (800) 424 9300
International (703) 527 3887
Lanxess Emergency Phone (800) 410-3063

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Skin irritation : Category 2
Serious eye damage : Category 1
Skin sensitization : Category 1

GHS label elements

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye damage.

Precautionary Statements : **Prevention:**
Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
Wash skin thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/ eye protection/ face protection.

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Response:

IF ON SKIN: Wash with plenty of soap and water.
IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
If skin irritation or rash occurs: Get medical advice/ attention.
Take off contaminated clothing and wash before reuse.

Disposal:

Dispose of contents/ container to an approved waste disposal plant.

Hazard Not Otherwise Classified (HNOC)

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous ingredients

Chemical name	CAS-No.	Concentration (% w/w)
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts	68442-22-8	>= 30 - < 50
Naphthenic acids, zinc salts	12001-85-3	>= 5 - < 10
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	>= 1 - < 5
Distillates, petroleum, hydrotreated light naphthenic	64742-53-6	>= 1 - < 5
Tolytriazole	29385-43-1	>= 1 - < 5
Distillates (petroleum), hydrotreated light paraffinic	64742-55-8	>= 1 - < 5

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

SECTION 4. FIRST AID MEASURES

If inhaled : Remove victim to fresh air and keep at rest in a position comfortable for breathing.
If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
Get medical attention.

In case of skin contact : Get medical attention.
Wash off with soap and plenty of water.
Continue to rinse for at least 10 minutes.
Remove contaminated clothing and shoes.
Wash contaminated clothing before re-use.
In the event of any complaints or symptoms, avoid further exposure.

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In case of eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids.
Remove contact lenses.
Continue to rinse for at least 20 minutes.
Get medical attention if symptoms appear.
Chemical burns must be treated promptly by a physician.

If swallowed : Rinse mouth with water.
Do not induce vomiting. Drink water. Call physician immediately.
If vomiting occurs, the head should be kept low so that vomit does not enter the lungs.

Most important symptoms and effects, both acute and delayed

Symptoms : Eye: Causes irritation with symptoms of reddening, tearing, stinging, and swelling.
Skin: May cause irritation with symptoms of reddening and itching.
May cause sensitization by skin contact.
Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Effects : Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye damage.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.
If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Notes to physician : Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media : None known.

Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses.

In a fire or if heated, a pressure increase will occur and the container may burst.
Cool closed containers exposed to fire with water spray.
Water runoff from fire fighting may be corrosive.

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- Hazardous combustion products : Carbon dioxide (CO₂)
Carbon monoxide
Oxides of phosphorus
Sulfur oxides
Metal oxides
Nitrogen oxides (NO_x)
- Further information : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.
No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
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SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : No action shall be taken involving any personal risk or without suitable training.
Put on appropriate personal protection equipment.
Do not touch or walk through spilled material.
Evacuate personnel to safe areas.
Keep unnecessary and unprotected personnel from entering.
Do not breathe vapors or spray mist.
- Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
Local authorities should be advised if significant spillages cannot be contained.
- Methods and materials for containment and cleaning up : Stop leak if safe to do so.
Move containers from spill area.
Wash spillages into an effluent treatment plant or proceed as follows.
Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).
Dispose of wastes in an approved waste disposal facility.
Do not allow into the sewerage system, surface waters or groundwater or into the soil.
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SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : Do not breathe vapors/dust.
Avoid contact with skin and eyes.
Persons with a history of skin sensitization to this product should not be employed in any process in which this product is used.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the ap-
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plication area.
To avoid spills during handling keep bottle on a metal tray.
Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : Store in accordance with local regulations.
Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink.
Keep container closed when not in use.
Containers that have been opened must be carefully resealed and kept upright to prevent leakage.
Do not store in unlabeled containers.
Use appropriate container to avoid environmental contamination.

Further information on storage stability : No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	TWA (Mist)	5 mg/m ³	OSHA Z-1
		TWA (Inhalable fraction)	5 mg/m ³	ACGIH
Distillates, petroleum, hydrotreated light naphthenic	64742-53-6	TWA (Mist)	5 mg/m ³	OSHA Z-1
		TWA (Inhalable fraction)	5 mg/m ³	ACGIH
Distillates (petroleum), hydrotreated light paraffinic	64742-55-8	TWA (Mist)	5 mg/m ³	OSHA Z-1
		TWA (Inhalable fraction)	5 mg/m ³	ACGIH
		TWA (Mist)	5 mg/m ³	OSHA P0
		TWA (Mist)	5 mg/m ³	NIOSH REL
		ST (Mist)	10 mg/m ³	NIOSH REL

Engineering measures : Use only with adequate ventilation.
If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Personal protective equipment

Respiratory protection : Use appropriate respiratory protection if there is a risk of exceeding any exposure limits.

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Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

- Filter type : Combined inorganic and acidic gas/vapor, ammonia/amines and organic vapor type
- Hand protection Material : PVC
- Eye protection : Safety goggles
- Skin and body protection : Wear suitable protective clothing.
- Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.
Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.
Appropriate techniques should be used to remove potentially contaminated clothing.
Wash contaminated clothing before reusing.
Ensure that eyewash stations and safety showers are close to the workstation location.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical state : liquid
- Color : amber
- Odor : not significant
- Odor Threshold : No data available
- pH : No data available
- Melting point/range : -13 °F (-25 °C)
- Boiling point/boiling range : No data available
- Flash point : 338 °F (170 °C)
Method: DIN ISO 2592, open cup
- Evaporation rate : No data available
- Flammability (solid, gas) : No data available
- Self-ignition : Autoignition temperature
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Not applicable

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit : No data available

Vapor pressure : No data available

Relative vapor density : No data available

Relative density : No data available

Density : 1.05 g/cm³ (68 °F (20 °C))

Solubility(ies)
Water solubility : insoluble

Partition coefficient: n-octanol/water : No data available

Ignition temperature : No data available

Decomposition temperature : No data available

Viscosity
Viscosity, kinematic : 76 mm²/s (104 °F (40 °C))

Explosive properties : No data available

Oxidizing properties : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Possibility of hazardous reactions : No dangerous reaction known under conditions of normal use.

Conditions to avoid : Extremes of temperature and direct sunlight.

Incompatible materials : Reducing agents
Oxidizing agents
Acids and bases

Hazardous decomposition products : No data available

SECTION 11. TOXICOLOGICAL INFORMATION

The most important known symptoms and effects are described in Section 2 and/or Section 4.

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Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity : LD50 (Rat): 24,000 mg/kg
Method: Calculation method

Acute inhalation toxicity : LC50 (Rat): 43.4 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Components:

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

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg
Method: OECD Test Guideline 402
GLP: yes
Remarks: Extrapolation according to Regulation (EC) No. 440/2008

Naphthenic acids, zinc salts:

Acute oral toxicity : LD50 (Rat): 4,920 mg/kg

Acute inhalation toxicity : LC0 (Rat): > 11.6 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD0 (Rabbit): > 2,000 mg/kg

Distillates (petroleum), hydrotreated heavy naphthenic:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5.53 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

Distillates, petroleum, hydrotreated light naphthenic:

Acute oral toxicity : LD50 Oral (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.53 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity

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Acute dermal toxicity : LD50 Dermal (Rabbit, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 402

Tolytriazole:

Acute oral toxicity : LD50 (Rat, male and female): 720 mg/kg
Method: OECD Test Guideline 401
GLP: no

Acute inhalation toxicity : LC0 (Rat, male and female): > 1.7 mg/l
Exposure time: 1 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit, male and female): > 5,000 mg/kg
GLP: yes
Remarks: Extrapolation according to Regulation (EC) No. 440/2008

Distillates (petroleum), hydrotreated light paraffinic:

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 401
GLP: yes

Acute inhalation toxicity : LC0 (Rat, male and female): > 5.53 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
GLP: yes
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 402
GLP: yes

Skin corrosion/irritation

Causes skin irritation.

Components:

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

Result: Irritating to skin.

Naphthenic acids, zinc salts:

Result: No skin irritation

Distillates (petroleum), hydrotreated heavy naphthenic:

Result: No skin irritation

Distillates, petroleum, hydrotreated light naphthenic:

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Species: Rabbit
Result: No skin irritation

Tolytriazole:

Species: Rabbit
Result: No skin irritation

Serious eye damage/eye irritation

Causes serious eye damage.

Components:

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

Result: Risk of serious damage to eyes.

Naphthenic acids, zinc salts:

Result: Eye irritation
Assessment: Irritating to eyes.

Distillates (petroleum), hydrotreated heavy naphthenic:

Result: No eye irritation

Distillates, petroleum, hydrotreated light naphthenic:

Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

Not classified based on available information.

Components:

Naphthenic acids, zinc salts:

Method: OECD Test Guideline 442D
Result: The product is a skin sensitizer, sub-category 1B.

Distillates (petroleum), hydrotreated heavy naphthenic:

Routes of exposure: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Did not cause sensitization on laboratory animals.

Distillates, petroleum, hydrotreated light naphthenic:

Routes of exposure: Skin contact

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Species: Guinea pig
Method: OECD Test Guideline 406
Result: Did not cause sensitization on laboratory animals.

Tolytriazole:

Routes of exposure: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Did not cause sensitization on laboratory animals.

Distillates (petroleum), hydrotreated light paraffinic:

Routes of exposure: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Did not cause sensitization on laboratory animals.
GLP: yes

Germ cell mutagenicity

Not classified based on available information.

Components:

Naphthenic acids, zinc salts:

Genotoxicity in vitro : Result: negative

Distillates (petroleum), hydrotreated heavy naphthenic:

Genotoxicity in vitro : Test system: Mammalian-Animal
Method: OECD Test Guideline 473
Result: negative

Tolytriazole:

Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse (male and female)
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative
GLP: yes

Distillates (petroleum), hydrotreated light paraffinic:

Genotoxicity in vitro : Test system: Mammalian-Animal
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
GLP: yes

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Test system: Mammalian-Animal
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: yes

Test system: Bacteria
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: positive

Carcinogenicity

Not classified based on available information.

Components:

Distillates, petroleum, hydrotreated light naphthenic:

Carcinogenicity - Assessment : Classified based on DMSO extract content < 3% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note L)

Distillates (petroleum), hydrotreated light paraffinic:

Carcinogenicity - Assessment : Classified based on DMSO extract content < 3% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note L)

IARC

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information.

Components:

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

Effects on fetal development : Species: Rat
Application Route: Oral
Dose: 160 milligram per kilogram
Result: No teratogenic potential.

Distillates (petroleum), hydrotreated heavy naphthenic:

Effects on fetal development : Species: Rat
Application Route: Dermal
Dose: 0 - 2000 milligram per kilogram
Result: No teratogenic potential.

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Distillates (petroleum), hydrotreated light paraffinic:

Effects on fertility : Species: Rat, male and female
Application Route: Oral
Dose: >= 1000 milligram per kilogram
Duration of Single Treatment: 2.5 yr
General Toxicity F1: NOAEL: >= 1,000 mg/kg body weight
Method: OECD Test Guideline 421
GLP: yes

Effects on fetal development : Species: Rat, female
Application Route: Dermal
Dose: 125 milligram per kilogram
Duration of Single Treatment: 18 d
General Toxicity Maternal: LOAEL: 125 mg/kg body weight
Method: OECD Test Guideline 414
GLP: yes

Species: Rat, female
Application Route: Dermal
Dose: >= 2000 milligram per kilogram
Duration of Single Treatment: 18 d
Teratogenicity: NOAEL: >= 2,000 mg/kg body weight
Method: OECD Test Guideline 414
GLP: yes

STOT-single exposure

Not classified based on available information.

Components:**Distillates (petroleum), hydrotreated heavy naphthenic:**

Assessment: May cause respiratory irritation.

Distillates, petroleum, hydrotreated light naphthenic:

Assessment: May cause respiratory irritation.

Distillates (petroleum), hydrotreated light paraffinic:

Assessment: May cause respiratory irritation.

STOT-repeated exposure

Not classified based on available information.

Repeated dose toxicity**Components:****Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts:**

Species: Rat
NOAEL: 160 mg/kg
Application Route: Oral

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Dose: 160 mg/kg
Remarks: Chronic toxicity

Tolytriazole:

Species: Rat
NOAEL: 150 mg/kg
Application Route: Oral
Exposure time: 28 d
Remarks: Subacute toxicity

Distillates (petroleum), hydrotreated light paraffinic:

Species: Rat, male
LOAEL: 125 mg/kg
Application Route: Oral
Exposure time: 90 d
Number of exposures: 5 days/week
Dose: 125 mg/kg
Method: OECD Test Guideline 408
Remarks: Subchronic toxicity

Species: Rabbit, male and female
NOAEL: 1,000 mg/kg
Application Route: Skin contact
Exposure time: 28 d
Dose: 1000 mg/kg
Method: OECD Test Guideline 410
GLP: yes
Remarks: Subacute toxicity

Species: Rat, male and female
NOAEL: > 980 mg/m³
Application Route: Inhalation
Test atmosphere: dust/mist
Exposure time: 28 d
Dose: > 980 mg/m³
GLP: no
Remarks: Subacute toxicity

Aspiration toxicity

Not classified based on available information.

Components:

Distillates, petroleum, hydrotreated light naphthenic:

May be fatal if swallowed and enters airways.

Distillates (petroleum), hydrotreated light paraffinic:

May be fatal if swallowed and enters airways.

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Further information

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

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

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 4.5 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
Remarks: Fresh water

NOEC (Oncorhynchus mykiss (rainbow trout)): 1.8 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
Remarks: Fresh water

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 23 mg/l
Exposure time: 48 h
Remarks: Fresh water

NOEC (Daphnia magna (Water flea)): 10 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: Fresh water

Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): 21 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Fresh water

NOEC (Desmodesmus subspicatus (green algae)): 10 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Fresh water

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.4 mg/l
Exposure time: 21 Days
Remarks: Fresh water

Naphthenic acids, zinc salts:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 100 mg/l
Exposure time: 96 h
Remarks: water extractable fraction

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 35 mg/l
Exposure time: 48 h

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Remarks: water extractable fraction

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (microalgae)): 4 mg/l
 Exposure time: 72 h
 Remarks: water extractable fraction

Distillates (petroleum), hydrotreated heavy naphthenic:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 5,000 mg/l
 Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): > 1,000 mg/l
 aquatic invertebrates Exposure time: 48 h

EL50 (Daphnia magna (Water flea)): > 100,000 mg/l
 Exposure time: 96 h
 Method: OECD Test Guideline 202

Toxicity to daphnia and other : NOEC (Daphnia magna (Water flea)): 10 mg/l
 aquatic invertebrates (Chronic toxicity) Exposure time: 21 d
 Method: OECD Test Guideline 211
 Remarks: Fresh water

Toxicity to microorganisms : IC50 (Desmodesmus subspicatus (green algae)): > 1,000 mg/l
 Exposure time: 96 h

Distillates, petroleum, hydrotreated light naphthenic:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l
 Exposure time: 96 h
 Method: OECD Test Guideline 203

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): > 100 mg/l
 aquatic invertebrates Exposure time: 48 h
 Method: OECD Test Guideline 202

Toxicity to algae : NOEC (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
 Exposure time: 72 h
 Method: OECD Test Guideline 201

Tolytriazole:

Toxicity to fish : LC50 (Cyprinodon variegatus (sheepshead minnow)): 55 mg/l
 Exposure time: 96 h
 Method: OECD Test Guideline 203
 Remarks: Fresh water

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 55 mg/l
 aquatic invertebrates Exposure time: 48 h
 Remarks: Fresh water

EC50 (Daphnia galeata (Water flea)): 8.58 mg/l
 Exposure time: 48 h

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Toxicity to algae : ErC50 (Desmodesmus subspicatus (green algae)): 62 mg/l
Exposure time: 72 h
Remarks: Fresh water

NOEC (Skeletonema costatum (marine diatom)): 30 mg/l
Exposure time: 72 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 18.4 mg/l
Exposure time: 21 Days

EC10 (Daphnia galeata (Water flea)): 0.4 mg/l
Exposure time: 21 Days
Method: OECD Test Guideline 211

Distillates (petroleum), hydrotreated light paraffinic:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
GLP: yes
Remarks: Fresh water

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): > 10,000 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: Fresh water

Toxicity to algae : NOEC (Pseudokirchneriella subcapitata (microalgae)): > 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Fresh water

Toxicity to fish (Chronic toxicity) : NOAEL (No observed adverse effect level) (Oncorhynchus mykiss (rainbow trout)): > 1,000 mg/l
Exposure time: 14 d
Method: QSAR
GLP: yes
Remarks: Fresh water

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 10 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211
GLP: yes
Remarks: Fresh water

Persistence and degradability

Components:

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

Biodegradability : Result: Not readily biodegradable.

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Naphthenic acids, zinc salts:

Biodegradability : Result: Inherently biodegradable.

Distillates (petroleum), hydrotreated heavy naphthenic:

Biodegradability : aerobic
Concentration: 44 mg/l
Result: Inherently biodegradable.
Biodegradation: 31 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
GLP: yes

Distillates, petroleum, hydrotreated light naphthenic:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 31 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Tolytriazole:

Biodegradability : Result: Not readily biodegradable.

Distillates (petroleum), hydrotreated light paraffinic:

Biodegradability : aerobic
Result: Not readily biodegradable.
Biodegradation: 2 - 4 %
Exposure time: 28 d
Method: OECD Test Guideline 301B
GLP: yes

Bioaccumulative potential**Components:****Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts:**

Partition coefficient: n-octanol/water : log Pow: 1.67

Naphthenic acids, zinc salts:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 1.89 - 11.15 (20 °C)
Remarks: The value is given based on a SAR/AAR approach using OECD Toolbox, DEREK, VEGA QSAR models (CAESAR models), etc.

Distillates (petroleum), hydrotreated heavy naphthenic:

Partition coefficient: n-octanol/water : log Pow: > 6

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Tolytriazole:

Bioaccumulation : Bioconcentration factor (BCF): 2.4

Partition coefficient: n-octanol/water : log Pow: 1.08

Mobility in soil

Components:

Tolytriazole:

Distribution among environmental compartments : Koc: 110

Other adverse effects

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Toxic to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

RCRA - Resource Conservation and Recovery Authorization Act : If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

Disposal methods : The generation of waste should be avoided or minimized wherever possible.
This material and its container must be disposed of in a safe way.
Empty containers retain product residue; observe all precautions for product.
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
Waste disposal should be in accordance with existing federal, state, provincial and/or local environmental controls.

SECTION 14. TRANSPORT INFORMATION

Domestic regulation

DOT

UN/ID/NA number : UN 3082
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s. (PHOSPHORODITHIOIC ACID, MIXED O,O-BIS(2-ETHYLHEXYL AND ISOBUTYL)ESTERS, ZINC SALTS)
Class : 9

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Packing group : III
Labels : 9



Marine pollutant : yes



Further information for transport : The U.S. DOT regulations in 49 CFR 172.102 permit this material to ship as an Environmentally Hazardous Substance, Class 9, using Special Provision 146.

International Regulations

IATA-DGR

UN/ID No. : UN 3082
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.
(PHOSPHORODITHIOIC ACID, MIXED O,O-BIS(2-ETHYLHEXYL AND ISOBUTYL)ESTERS, ZINC SALTS)
Class : 9
Packing group : III
Labels : 9



Packing instruction (cargo aircraft) : 964: 450.00 L
Packing instruction (passenger aircraft) : 964: 450.00 L
Environmentally hazardous : yes



IMDG-Code

UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(PHOSPHORODITHIOIC ACID, MIXED O,O-BIS(2-ETHYLHEXYL AND ISOBUTYL)ESTERS, ZINC SALTS)
Class : 9
Packing group : III
Labels : 9

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Marine pollutant

: yes



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

SECTION 15. REGULATORY INFORMATION

CERCLA

None

Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitization

SARA 313

The following components are subject to reporting levels established by SARA Title III, Section 313:

Components	CAS-No.	Concentration
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts	68442-22-8	30 - 50 %
Naphthenic acids, zinc salts	12001-85-3	5 - 10 %

US State Regulations

Massachusetts Right To Know

Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	1 - 5
Distillates, petroleum, hydrotreated light naphthenic	64742-53-6	1 - 5
Distillates (petroleum), hydrotreated light paraffinic	64742-55-8	1 - 5
Distillates, petroleum, solvent-refined light naphthenic	64741-97-5	0.1 - 1

Pennsylvania Right To Know

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Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts	68442-22-8	30 - 50
Fatty acids, vegetable-oil, Me esters, sulfurized	72102-30-8	15 - 40
Naphthenic acids, zinc salts	12001-85-3	5 - 10
Pentene, 2,4,4-trimethyl-, sulfurized	68515-88-8	3 - 7
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	1 - 5
Distillates, petroleum, hydrotreated light naphthenic	64742-53-6	1 - 5
Tolytriazole	29385-43-1	1 - 5
Distillates (petroleum), hydrotreated light paraffinic	64742-55-8	1 - 5

California Prop. 65

This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive defects.

TSCA inventory

TSCA : On TSCA Inventory

TSCA list

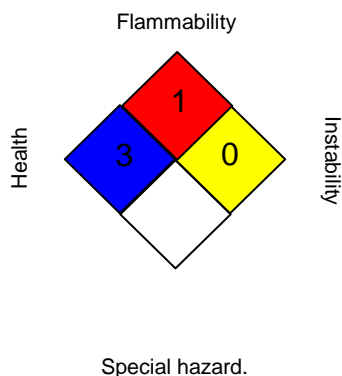
No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS® IV:

HEALTH	/	3
FLAMMABILITY		1
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

LANXESS' method of hazard communication is comprised of Product Labels and Safety Data Sheets. HMIS and NFPA ratings are provided by LANXESS as a customer service.

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