



Safety Data Sheet

HiTEC® 12213 Performance Additive

SDS no. H12213

Date of issue/Date of revision 8/15/2018

Section 1. Identification

GHS product identifier : HiTEC® 12213 Performance Additive
Product use : Petrochemical industry: Lubricating Oil Additive.

In case of emergency - Chemical

+1-703-527-3887 (International)
+1-703-741-5979 (Spanish language)
+1-800-424-9300 (US & Canada)

Manufacturer / Supplier

Afton Chemical Corporation
500 Spring St.
Richmond, VA 23219
USA

Afton Chemical Canada Corporation
5045 South Service Road
Suite 101
Burlington, ON L7L 5Y7
905-631-5470

Non-Emergency Telephone: +1-804-788-5800

Section 2. Hazards identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : Not classified.

GHS label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

Prevention : Not applicable.

Response : Not applicable.

Storage : Store in well-ventilated place.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Additional hazards : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Section 3. Composition/information on ingredients

Ingredient name	CAS number	Conc. (% w/w)	US GHS Classification
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	≥25 - ≤35	Not classified.
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	≥10 - ≤15	Not classified.
Phosphorodithioic acid, mixed O,O-bis (2-ethylhexyl and iso-Bu and iso-Pr) esters, zinc salts	85940-28-9	≥5 - ≤10	SKIN IRRITATION - Category 2 SERIOUS EYE DAMAGE - Category 1
phenol, (tetrapropenyl) derivatives	74499-35-7	≥0.1 - ≤0.3	SKIN CORROSION - Category 1 SERIOUS EYE DAMAGE - Category 1 TOXIC TO REPRODUCTION (Fertility) - Category 1B

Any concentration shown as a range is to protect confidentiality or is due to batch variation. If specific chemical identify is withheld, it is to protect confidentiality.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : If inhaled, remove to fresh air. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. If not breathing, give artificial respiration. If breathing is difficult, administer oxygen.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

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

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : In case of fire, use water spray (fog), foam, dry chemical or CO₂.
- Unsuitable extinguishing media** : Do not use water jet.

- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
phosphorus oxides
metal oxide/oxides
Hydrogen sulfide

- Special protective actions for fire-fighters** : 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.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8).
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** : 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 tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Distillates (petroleum), hydrotreated heavy paraffinic	OSHA PEL (United States, 6/2016). TWA: 5 mg/m ³ 8 hours. ACGIH TLV (United States, 3/2017). TWA: 5 mg/m ³ 8 hours. Form: Inhalable fraction
Distillates (petroleum), solvent-dewaxed heavy paraffinic	OSHA PEL (United States, 6/2016). TWA: 5 mg/m ³ 8 hours. ACGIH TLV (United States, 3/2017). TWA: 5 mg/m ³ 8 hours. Form: Inhalable fraction

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

- Hygiene measures** : 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.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Section 8. Exposure controls/personal protection

- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Liquid.
- Color** : Brown. [Dark]
- Odor** : Petroleum-like [Slight]
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point** : Not available.
- Boiling point** : Not available.
- Flash point** : Closed cup: 135°C (275°F) [Pensky-Martens. Minimum]
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Relative density** : 0.947
- Solubility** : Not available.
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Viscosity** : Kinematic (40°C): 19.26 cm²/s
- Viscosity** : 105 cSt @ 100°C

Aerosol product

Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : High temperatures, sparks and open flames.
- Incompatible materials** : Strong oxidizing and reducing agents.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Test	Result	Species	Dose	Exposure	Remarks
Distillates (petroleum), hydrotreated heavy paraffinic	403 Acute Inhalation Toxicity	LC50 Inhalation Dusts and mists	Rat	>5.53 mg/l	4 hours	-
	402 Acute Dermal Toxicity	LD50 Dermal	Rabbit	>5000 mg/kg	-	Based on data for a similar substance. Based on data for a similar substance.
	401 Acute Oral Toxicity	LD50 Oral	Rat	>5000 mg/kg	-	
Distillates (petroleum), solvent-dewaxed heavy paraffinic	403 Acute Inhalation Toxicity	LC50 Inhalation Vapor	Rat	>5.53 mg/l	4 hours	-
	402 Acute Dermal Toxicity	LD50 Dermal	Rabbit	>5000 mg/kg	-	-
	401 Acute Oral Toxicity	LD50 Oral	Rat	>5000 mg/kg	-	-
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu and iso-Pr) esters, zinc salts	403 Acute Inhalation Toxicity	LC50 Inhalation Vapor	Rat	>2.3 mg/l	4 hours	Based on data for a similar substance.
	402 Acute Dermal Toxicity	LD50 Dermal	Rabbit	>20000 mg/kg	-	-
	401 Acute Oral Toxicity	LD50 Oral	Rat	3080 mg/kg	-	-
phenol, (tetrapropenyl) derivatives	402 Acute Dermal Toxicity	LD50 Dermal	Rabbit	15000 mg/kg	-	-
	401 Acute Oral Toxicity	LD50 Oral	Rat	2200 mg/kg	-	-

Conclusion/Summary : Not available.

Irritation/Corrosion

Product/ingredient name	Test	Species	Result	Remarks
Distillates (petroleum), hydrotreated heavy paraffinic	404 Acute Dermal Irritation/Corrosion	Rabbit	Skin - Mild irritant	Based on data for a similar substance. Based on data for a similar substance.
	405 Acute Eye Irritation/Corrosion	Rabbit	Eyes - Mild irritant	
Distillates (petroleum), solvent-dewaxed heavy paraffinic	404 Acute Dermal Irritation/Corrosion	Rabbit	Skin - Mild irritant	-
	405 Acute Eye Irritation/Corrosion	Rabbit	Eyes - Mild irritant	-
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu and iso-Pr) esters, zinc salts	404 Acute Dermal Irritation/Corrosion	Rabbit	Skin - Irritant	Not H315 at <15%. On basis of test data.
	405 Acute Eye Irritation/Corrosion	Rabbit	Eyes - Severe irritant	
phenol, (tetrapropenyl) derivatives	404 Acute Dermal Irritation/Corrosion	Rabbit	Skin - Visible necrosis	-
	405 Acute Eye Irritation/Corrosion	Rabbit	Eyes - Visible necrosis	-

Conclusion/Summary

Skin : ☒ Non-irritating to the skin. Based on test data for this or similar products.

Eyes : ☒ Non-irritating to the eyes. Based on test data for this or similar products.

Section 11. Toxicological information

Respiratory : Not available.

Sensitization

Product/ingredient name	Test	Route of exposure	Species	Result	Remarks
Distillates (petroleum), hydrotreated heavy paraffinic	406 Skin Sensitization	skin	Guinea pig	Not sensitizing	Based on data for a similar substance.
Distillates (petroleum), solvent-dewaxed heavy paraffinic	406 Skin Sensitization	skin	Guinea pig	Not sensitizing	-
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu and iso-Pr) esters, zinc salts	406 Skin Sensitization	skin	Guinea pig	Not sensitizing	-
phenol, (tetrapropenyl) derivatives	406 Skin Sensitization	skin	Guinea pig	Not sensitizing	-

Conclusion/Summary

Skin : Not available.

Respiratory : Not available.

Mutagenicity

Product/ingredient name	Test	Experiment	Result	Remarks
Distillates (petroleum), hydrotreated heavy paraffinic	471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative	Based on data for a similar substance.
	473 <i>In vitro</i> Mammalian Chromosomal Aberration Test	Experiment: In vitro Subject: Mammalian-Animal	Negative	Based on data for a similar substance.
Distillates (petroleum), solvent-dewaxed heavy paraffinic	471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative	Based on data for a similar substance.
	473 <i>In vitro</i> Mammalian Chromosomal Aberration Test	Experiment: In vitro Subject: Mammalian-Animal	Negative	-
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu and iso-Pr) esters, zinc salts	None available.	Experiment: In vitro Subject: Mammalian-Animal	Positive	Based on data for a similar substance. WOE does not support classification
	471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative	-
	476 <i>In vitro</i> Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal	Negative	Based on data for a similar substance.
phenol, (tetrapropenyl) derivatives	471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative	-
	476 <i>In vitro</i> Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal	Negative	-

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Classification

Reproductive toxicity

Section 11. Toxicological information

Product/ingredient name	Test	Route of exposure	Species	Maternal toxicity	Fertility	Development toxin	Remarks
Distillates (petroleum), hydrotreated heavy paraffinic	421 Reproduction/ Developmental Toxicity Screening Test	Oral	Rat	Negative	Negative	Negative	Based on data for a similar substance.
Distillates (petroleum), solvent-dewaxed heavy paraffinic	421 Reproduction/ Developmental Toxicity Screening Test	Oral	Rat	Negative	Negative	Negative	-
Phosphorodithioic acid, mixed O,O-bis (2-ethylhexyl and iso-Bu and iso-Pr) esters, zinc salts	421 Reproduction/ Developmental Toxicity Screening Test	Oral	Rat	Negative	Negative	Negative	Based on data for a similar substance.
phenol, (tetrapropenyl) derivatives	416 Two-Generation Reproduction Toxicity Study	Oral	Rat	Positive	Positive	Positive	-

Conclusion/Summary : Not available.

Teratogenicity

Product/ingredient name	Test	Species	Result	Remarks
Distillates (petroleum), hydrotreated heavy paraffinic	414 Prenatal Developmental Toxicity Study	Rat	Negative - Dermal	Based on data for a similar substance.
Distillates (petroleum), solvent-dewaxed heavy paraffinic	414 Prenatal Developmental Toxicity Study	Rat	Negative - Dermal	Based on data for a similar substance.
phenol, (tetrapropenyl) derivatives	414 Prenatal Developmental Toxicity Study	Rat	Positive - Oral	-

Conclusion/Summary : Not available.

Information on the likely routes of exposure : Skin, Eyes, Ingestion, and Inhalation

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Inhalation of oil mist or vapors at elevated temperatures may cause respiratory irritation. Ingestion may cause gastrointestinal irritation and diarrhea.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.

Section 11. Toxicological information

Potential delayed effects : Not available.

Potential chronic health effects

Product/ingredient name	Test	Species	Dose	Exposure	Result	Remarks
Distillates (petroleum), hydrotreated heavy paraffinic	408 Repeated Dose 90-Day Oral Toxicity Study in Rodents	Rat	125 mg/kg	-	Sub-chronic LOAEL Oral	Based on data for a similar substance.
	411 Subchronic Dermal Toxicity: 90-day Study	Rat - Female	30 mg/kg	-	Sub-chronic NOAEL Dermal	Based on data for a similar substance.
	410 Repeated Dose Dermal Toxicity: 21/28-day Study	Rabbit	1000 mg/kg	-	Sub-acute NOAEL Dermal	Based on data for a similar substance.
	None available.	Rat	0.22 mg/l	4 weeks	Sub-chronic NOAEL Inhalation Dusts and mists	Based on data for a similar substance.
	None available.	Rat	0.15 mg/l	13 weeks	Sub-chronic NOAEL Inhalation Dusts and mists	Based on data for a similar substance.
Distillates (petroleum), solvent-dewaxed heavy paraffinic	None available.	Rabbit	1000 mg/kg	-	Sub-acute NOAEL Dermal	-
	None available.	Rat	0.15 mg/l	13 weeks	Sub-chronic NOAEL Inhalation Vapor	-
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu and iso-Pr) esters, zinc salts phenol, (tetrapropenyl) deriva- tives	407 Repeated Dose 28-day Oral Toxicity Study in Rodents	Rat	125 mg/kg	-	Sub-acute NOAEL Oral	Based on data for a similar substance.
	416 Two-Generation Reproduction Toxicity Study	Rat	15 mg/kg	-	Sub-chronic NOAEL Oral	-

Conclusion/Summary : Not determined.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.


Route	ATE value
Oral	56175.2 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure	Remarks
Distillates (petroleum), hydrotreated heavy paraffinic	Acute EL50 >10000 mg/l	Daphnia - Daphnia magna	48 hours	Based on data for a similar substance.
	Acute LL50 >100 mg/l	Fish - Pimephales promelas	96 hours	Based on data for a similar substance.
	Chronic NOEL ≥100 mg/l	Algae - Pseudokirchneriella subcapitata	72 hours	Based on data for a similar substance.
	Chronic NOEL 10 mg/l	Daphnia - Daphnia magna	21 days	Based on data for a similar substance.
Distillates (petroleum), solvent-dewaxed heavy paraffinic	Chronic NOEL 1000 mg/l	Fish - Oncorhynchus mykiss	14 days	QSAR result.
	Acute EL50 >10000 mg/l	Daphnia - Daphnia magna	48 hours	Based on data for a similar substance.
	Acute LL50 >100 mg/l	Fish - Pimephales promelas	96 hours	Based on data for a similar substance.
	Chronic NOEL ≥100 mg/l	Algae - Pseudokirchneriella subcapitata	72 hours	Based on data for a similar substance.
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu and iso-Pr) esters, zinc salts	Chronic NOEL 10 mg/l	Daphnia - Daphnia magna	21 days	Based on data for a similar substance.
	Chronic NOEL 1000 mg/l	Fish - Oncorhynchus mykiss	14 days	QSAR result.
	Acute EL50 2.1 mg/l	Algae - Selenastrum capricornutum	96 hours	Based on data for a similar substance.
	Acute EL50 5.4 mg/l	Daphnia - Daphnia magna	48 hours	Based on data for a similar substance.
phenol, (tetrapropenyl) derivatives	Acute EL50 >10000 mg/l	Micro-organism	3 hours	Based on data for a similar substance.
	Acute LL50 4.5 mg/l	Fish - Oncorhynchus mykiss	96 hours	Based on data for a similar substance.
	Chronic NOEL 1 mg/l	Algae - Selenastrum capricornutum	96 hours	Based on data for a similar substance.
	Chronic NOEL 0.4 mg/l	Daphnia - Daphnia magna	21 days	Based on data for a similar substance.
phenol, (tetrapropenyl) derivatives	Acute EL50 0.36 mg/l	Algae - Desmodesmus subspicatus	72 hours	-
	Acute EL50 0.037 mg/l	Daphnia - Daphnia magna	48 hours	-
	Acute EL50 >1000 mg/l	Micro-organism	3 hours	-
	Acute LL50 40 mg/l	Fish - Pimephales promelas	96 hours	-
	Chronic NOEL 0.07 mg/l	Algae - Desmodesmus subspicatus	72 hours	-
	Chronic NOEL 0.0037 mg/l	Daphnia - Daphnia magna	21 days	-

Section 12. Ecological information

Conclusion/Summary :  Harmful to aquatic life with long lasting effects.

Persistence and degradability

Product/ingredient name	Test	Result	Remarks
Distillates (petroleum), hydrotreated heavy paraffinic	OECD 301F Ready Biodegradability - Manometric Respirometry Test	31 % - Not readily - 28 days	Based on data for a similar substance.
Distillates (petroleum), solvent-dewaxed heavy paraffinic	OECD 301F Ready Biodegradability - Manometric Respirometry Test	31 % - Not readily - 28 days	Based on data for a similar substance.
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu and iso-Pr) esters, zinc salts	OECD 301B Ready Biodegradability - CO ₂ Evolution Test	1.5 % - Not readily - 28 days	Based on data for a similar substance.
phenol, (tetrapropenyl) derivatives	OECD 301B Ready Biodegradability - CO ₂ Evolution Test	6 to 25 % - Not readily - 28 days	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Distillates (petroleum), hydrotreated heavy paraffinic	-	-	Not readily
Distillates (petroleum), solvent-dewaxed heavy paraffinic	-	-	Not readily
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu and iso-Pr) esters, zinc salts	-	-	Not readily
phenol, (tetrapropenyl) derivatives	-	-	Not readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
phenol, (tetrapropenyl) derivatives	-	289 to 1601	high

Section 13. Disposal considerations

Disposal methods

: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and

Section 13. Disposal considerations

sewers.

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
DOT Classification	Not regulated.	-	-	-		-
TDG Classification	Not regulated.	-	-	-		-
IMDG Class	Not regulated.	-	-	-		-
IATA-DGR Class	Not regulated.	-	-	-		-

Notice to reader

The above transport information is provided to assist in the proper classification of this product and may not be suitable for all shipping conditions.

Section 15. Regulatory information

U.S. Federal regulations :

SARA 302/304

Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
ethylene oxide	<0.1	Yes.	1000	-	10	-

SARA 311/312

Classification : Not applicable.

Composition/information on ingredients

Name	%	Classification
Distillates (petroleum), hydrotreated heavy paraffinic	≥25 - ≤35	HNOC - Static-accumulating flammable liquid
Distillates (petroleum), solvent-dewaxed heavy paraffinic	≥10 - ≤15	HNOC - Static-accumulating flammable liquid
Phosphorodithioic acid, mixed O, O-bis(2-ethylhexyl and iso-Bu and iso-Pr) esters, zinc salts	≥5 - ≤10	SKIN IRRITATION - Category 2 SERIOUS EYE DAMAGE - Category 1
phenol, (tetrapropenyl) derivatives	≥0.1 - ≤0.3	SKIN CORROSION - Category 1 SERIOUS EYE DAMAGE - Category 1 TOXIC TO REPRODUCTION (Fertility) - Category 1B

SARA 313

Section 15. Regulatory information

	Product name	CAS number	%
Form R - Reporting requirements	Phosphorodithioic acid, mixed O,O-bis (2-ethylhexyl and iso-Bu and iso-Pr) esters, zinc salts	85940-28-9	≥5 - ≤10
Supplier notification	Phosphorodithioic acid, mixed O,O-bis (2-ethylhexyl and iso-Bu and iso-Pr) esters, zinc salts	85940-28-9	≥5 - ≤10

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

RQ (Reportable quantity) : CERCLA: Hazardous substances.: Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu and iso-Pr) esters, zinc salts: No RQ is being assigned to the generic or broad class.; ethylene oxide: 10 lbs. (4.54 kg); ethanediol: 5000 lbs. (2270 kg); naphthalene: 100 lbs. (45.4 kg); toluene: 1000 lbs. (454 kg); benzene: 10 lbs. (4.54 kg); ethylbenzene: 1000 lbs. (454 kg);

United States - TSCA 12(b) - Chemical export notification

List name

Status

Name on list

Ref. number

None of the components are listed.

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

State - California Prop. 65

WARNING: This product contains less than 0.1% of a chemical known to the State of California to cause cancer.

WARNING: This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Ethylene oxide	Yes.	Yes.	Yes.	Yes.
Ethylene Glycol	No.	Yes.	-	Yes.
Naphthalene	Yes.	No.	Yes.	-
Toluene	No.	Yes.	-	Yes.
Benzene	Yes.	Yes.	Yes.	Yes.
Ethylbenzene	Yes.	No.	Yes.	-

Canadian regulations

International Inventory Status

- Australia** : At least one component is not listed.
- Canada** : All components are listed or exempted.
- China** : ☒ At least one component is not listed. Please contact your supplier for information on the inventory status of this material.
- Japan** : At least one component is not listed.
- Republic of Korea** : ☒ At least one component is not listed. Please contact your supplier for information on the inventory status of this material.
- New Zealand** : All components are listed or exempted.
- Philippines** : All components are listed or exempted.
- Taiwan** : All components are listed or exempted.
- United States** : All components are listed or exempted.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	/	1
Flammability		1
Physical hazards		0

Section 16. Other information

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

History

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Prepared by : EHS Department (Tel: +1 804 788 5800)

Key to abbreviations

: ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

▀ Indicates information that has changed from previously issued version.

Notice to reader

This information and these recommendations are offered in good faith and believed to be correct as of the date hereof. Information and recommendations are supplied upon the condition that the recipients will make their own decision as to safety and suitability for their purposes. No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature, are made with respect to the product or the information and recommendations. Afton makes no representation as to completeness or accuracy. In no event will Afton be responsible for damages of any nature whatsoever resulting from the use or reliance upon the information and recommendations.