SAFETY DATA SHEET

Intermediate Distillates

EXHIBIT 19

HOLLYFRONTIER

Section 1. Identification

Product name : Intermediate Distillates

Synonyms : Coker Distillate, Crude Diesel, Crude Kerosene, DHDS Charge, DHDS Rundown, DHDS Stripper Bottoms, DHT Stripper Charge, DHT Unit Charge, Diesel, Distillate, Gofiner Diesel, Gofiner Kerosene, Heavy Cat Naphtha (HCN), Heavy Cycle Oil (HCO), Heavy Diesel, HTU1 Cold Feed, HTU1 intermediate, HTU1 Stripper Bottoms, HTU4 Cold Feed, HTU4 intermediate, HTU4 Stripper Bottoms, HTU5 Cold Feed, HTU5 intermediate, HTU5 Stripper Bottoms, Jet A, Jet Fuel, Kerosene, Light Atmospheric Gas Oil (LAGO), FCCU Light Cycle Oil (LCO), Light Coker Gas Oil (LCGO), Light vacuum gas oil (LVGO), Stove Oil, Straight Run Diesel, U8 Naphtha, Ultralow Sulfur Diesel (ULSD), Unifiner Charge, Unifiner Rundown, Unifiner Stripper Bottoms, Vacuum Diesel, Vacuum Top Gas Oil, Virgin Diesel

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

Product use : Intermediate.

Manufacturer : HollyFrontier Refining & Marketing LLC
2828 North Harwood
Suite 1300
Dallas, Texas 75201
USA
Customer Service: (888) 286-8836

Emergency telephone number : CHEMTREC® (800) 424-9300
CCN 201319

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
SKIN CORROSION/IRRITATION - Category 2
TOXIC TO REPRODUCTION (Unborn child) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
ASPIRATION HAZARD - Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : Flammable liquid and vapor.
Causes skin irritation.
Suspected of damaging the unborn child.
May be fatal if swallowed and enters airways.
May cause drowsiness and dizziness.

Precautionary statements

EXHIBIT 5

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Keep away from heat, sparks, open flames and hot surfaces. - No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Wash hands thoroughly after handling.

Response : IF exposed or concerned: Get medical attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. If skin irritation occurs: Get medical attention.

Storage : Store in a well-ventilated place. Keep cool.

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

Supplemental label elements : Avoid contact with skin and clothing. Wash thoroughly after handling.

Hazards not otherwise classified : Prolonged or repeated contact may dry skin and cause irritation. May release hydrogen sulfide a poisonous gas that can accumulate in confined spaces.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture.

CAS number/other identifiers

CAS number : Not available.

Product code : Not available.

Ingredient name	%	CAS number
Naphtha	0 - 50	8030-30-6
Distillates (petroleum), hydrotreated light	0 - 50	64742-47-8
toluene	0 - 5	108-88-3
1,2,4-trimethylbenzene	0 - 0.7	95-63-6
nonane	0 - 0.7	111-84-2
n-hexane	0 - 0.5	110-54-3
naphthalene	0 - 0.2	91-20-3
hydrogen sulfide	0.0001	7783-06-4

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

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

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, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention. Continue to rinse for at least 15 minutes.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Continue to rinse for at least 15 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : May cause mild eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness.

Skin contact : Causes skin irritation. Defatting to the skin.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact : pain or irritation; watering; redness

Inhalation : nausea or vomiting; headache; drowsiness/fatigue; dizziness/vertigo; unconsciousness

Skin contact : irritation; redness; dryness; cracking

Ingestion : nausea or vomiting

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

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to high concentrations of hydrocarbon solvents.

Specific treatments : No specific treatment.

Protection of medical responders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. May release hydrogen sulfide a poisonous gas that can accumulate in confined spaces.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

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. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. May release hydrogen sulfide a poisonous gas that can accumulate in confined spaces.

For emergency responders : If specialised 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). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Absorb with an inert 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. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, waterways, 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. Contaminated absorbent material may pose the same hazard as the spilled product. 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). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not swallow. Avoid breathing vapor or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container. High pressure skin injections are serious medical emergencies. Injury will not appear serious at first. Within a few hours, tissue will become swollen, discolored and extremely painful. May release hydrogen sulfide a poisonous gas that can accumulate in confined spaces.

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 a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidizing materials. 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

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits		
Naphtha	**OSHA PEL (United States, 2/2013).** TWA: 400 mg/m³ 8 hours. TWA: 100 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 100 ppm 8 hours. TWA: 400 mg/m³ 8 hours.		**NIOSH REL (United States, 10/2013).** TWA: 400 mg/m³ 10 hours. TWA: 100 ppm 10 hours.
Distillates (petroleum), hydrotreated light	-	**ACGIH TLV (United States, 3/2012). Absorbed through skin.** TWA: 200 mg/m³, (as total hydrocarbon vapor) 8 hours.	
toluene	**OSHA PEL 1989 (United States, 3/1989).** TWA: 100 ppm 8 hours. TWA: 375 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 560 mg/m³ 15 minutes. **OSHA PEL Z2 (United States, 2/2013).** TWA: 200 ppm 8 hours. CEIL: 300 ppm AMP: 500 ppm 10 minutes.	**ACGIH TLV (United States, 6/2013).** TWA: 20 ppm 8 hours.	**NIOSH REL (United States, 10/2013).** TWA: 100 ppm 10 hours. TWA: 375 mg/m³ 10 hours. STEL: 150 ppm 15 minutes. STEL: 560 mg/m³ 15 minutes.
1,2,4-trimethylbenzene	**OSHA PEL 1989 (United States, 3/1989).** TWA: 25 ppm 8 hours. TWA: 125 mg/m³ 8 hours.	**ACGIH TLV (United States, 6/2013).** TWA: 25 ppm 8 hours. TWA: 123 mg/m³ 8 hours.	**NIOSH REL (United States, 10/2013).** TWA: 25 ppm 10 hours. TWA: 125 mg/m³ 10 hours.
nonane	**OSHA PEL 1989 (United States, 3/1989).** TWA: 200 ppm 8 hours. TWA: 1050 mg/m³ 8 hours.	**ACGIH TLV (United States, 6/2013).** TWA: 200 ppm 8 hours. TWA: 1050 mg/m³ 8 hours.	**NIOSH REL (United States, 10/2013).** TWA: 200 ppm 10 hours. TWA: 1050 mg/m³ 10 hours.
n-hexane	**OSHA PEL 1989 (United States, 3/1989).** TWA: 50 ppm 8 hours. TWA: 180 mg/m³ 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 500 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.	**ACGIH TLV (United States, 6/2013). Absorbed through skin.** TWA: 50 ppm 8 hours.	**NIOSH REL (United States, 10/2013).** TWA: 50 ppm 10 hours. TWA: 180 mg/m³ 10 hours.
naphthalene	**OSHA PEL 1989 (United States, 3/1989).** STEL: 15 ppm 15 minutes. STEL: 75 mg/m³ 15 minutes. TWA: 10 ppm 8 hours. TWA: 50 mg/m³ 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 10 ppm 8 hours. TWA: 50 mg/m³ 8 hours.	**ACGIH TLV (United States, 6/2013). Absorbed through skin.** TWA: 10 ppm 8 hours. TWA: 52 mg/m³ 8 hours. STEL: 15 ppm 15 minutes. STEL: 79 mg/m³ 15 minutes.	**NIOSH REL (United States, 10/2013).** TWA: 10 ppm 10 hours. TWA: 50 mg/m³ 10 hours. STEL: 15 ppm 15 minutes. STEL: 75 mg/m³ 15 minutes.
hydrogen sulfide	**OSHA PEL 1989 (United States, 3/1989).** TWA: 10 ppm 8 hours. TWA: 14 mg/m³ 8 hours. STEL: 15 ppm 15 minutes. STEL: 21 mg/m³ 15 minutes. **OSHA PEL Z2 (United States, 2/2013).** CEIL: 20 ppm AMP: 50 ppm 10 minutes.	**ACGIH TLV (United States, 6/2013).** TWA: 1 ppm 8 hours. STEL: 5 ppm 15 minutes.	**NIOSH REL (United States, 10/2013).** CEIL: 10 ppm 10 minutes. CEIL: 15 mg/m³ 10 minutes.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment. May release hydrogen sulfide a poisonous gas that can accumulate in confined spaces.

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: chemical splash goggles.

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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

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. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

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 : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. 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.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Amber.

Odor : Diesel

Odor threshold : Not available.

pH : Not available.

Melting point : <15°C (<59°F)

Boiling point : 85 to 266°C (185 to 511°F)

Flash point : 39 to 101°C (102 to 214°F)

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits	:	Not available.
Vapor pressure	:	6.9 to 89.6 kPa (51.711 to 672.24 mm Hg) 1 - 13 psi
Vapor density	:	Not available.
Specific gravity	:	0.55 to 1
Solubility	:	Insoluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	:	Not available.
Auto-ignition temperature	:	Not available.
Decomposition temperature	:	Not available.
Viscosity	:	Kinematic (40°C (104°F)): 0.017 to 0.096 cm^2/s (1.7 to 9.6 cSt)
Molecular weight	:	Not applicable.

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	:	Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Incompatible materials	:	Reactive or incompatible with the following materials: oxidizing materials
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	Result	Species	Dose	Exposure
Naphtha	LC50 Inhalation Vapor	Rat	>5.2 mg/l	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
Distillates (petroleum), hydrotreated light	LC50 Inhalation Dusts and mists	Rat	>5.28 mg/l	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-

Conclusion/Summary : Based on CONCAWE assessment of low boiling point naphthas (Gasolines).
Based on CONCAWE assessment of kerosenes.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Naphtha	Eyes - Mild irritant	Rabbit	-	100 microliters	-
	Skin - Moderate irritant	Rabbit	-	500 microliters	-

Conclusion/Summary

Skin : Based on CONCAWE assessment of low boiling point naphthas (Gasolines) . Slight to moderate/severe irritating to skin.
Based on CONCAWE assessment of kerosenes. Non-irritating to moderate/severe irritating to skin.

Eyes : Based on CONCAWE assessment of low boiling point naphthas (Gasolines). Non-irritating to the eyes.
Based on CONCAWE assessment of kerosenes. Slightly irritating to the eyes.

Sensitization

Conclusion/Summary

Skin : Based on CONCAWE assessment of low boiling point naphthas (Gasolines). Not sensitizing.
Based on CONCAWE assessment of kerosenes. Not sensitizing.

Respiratory : No data available.

Carcinogenicity

Product/ingredient name	OSHA	IARC	NTP
toluene	-	3	-
naphthalene	-	2B	Reasonably anticipated to be a human carcinogen.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Naphtha	Category 3	Not applicable.	Narcotic effects
Distillates (petroleum), hydrotreated light	Category 3	Not applicable.	Narcotic effects

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Name	Result
Naphtha	ASPIRATION HAZARD - Category 1
Distillates (petroleum), hydrotreated light	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation.

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

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Conclusion/Summary : Based on CONCAWE assessment of low boiling point naphthas (Gasolines). Inhalation: No systemic toxicity. Dermal: No systemic toxicity.
Based on CONCAWE assessment of kerosenes . Inhalation: No systemic toxicity. Dermal: No systemic toxicity.

General : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : Suspected of damaging the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	25440 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Naphtha	Acute EC50 1 to 10 mg/l Acute IC50 1 to 10 mg/l Acute LC50 1 to 10 mg/l	Daphnia Algae Fish	48 hours 96 hours 96 hours

Conclusion/Summary : Based on CONCAWE assessment of low boiling point naphthas (Gasolines).

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
toluene	301C Ready Biodegradability - Modified MITI Test (I)	100 % - 14 days	-	-

Conclusion/Summary : Based on CONCAWE assessment of low boiling point naphthas (Gasolines).
Based on CONCAWE assessment of kerosenes.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Naphtha Distillates (petroleum), hydrotreated light	- -	- -	Inherent Inherent

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Naphtha Distillates (petroleum), hydrotreated light	>4 >4	10 to 2500 -	high high

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

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. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues.

Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

United States - RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Toluene; Benzene, methyl-	108-88-3	Listed	U220

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	ADR/RID	IMDG	IATA
UN number	UN1268	UN1268	UN1268	UN1268	UN1268	UN1268
UN proper shipping name	Petroleum distillates, n.o.s.. Marine pollutant (Distillates (petroleum), hydrotreated light) RQ (toluene)	PETROLEUM DISTILLATES, N.O.S.	DESTILADOS DE PETROLEO, N.E.P.	PETROLEUM DISTILLATES, N.O.S.	PETROLEUM DISTILLATES, N.O.S.. Marine pollutant (Naphtha)	Petroleum distillates, n.o.s.
Transport hazard class(es)	3 	3 	3 	3 	3 	3 
Packing group	III	III	III	III	III	III
Environmental hazards	No.	No.	No.	No.	Yes.	No.
Additional information	This product may be re-classified as "Combustible Liquid," unless transported by vessel or aircraft. Non-bulk packages (less than or equal to 119 gal) of combustible liquids, that are marine pollutants, are not regulated as hazardous materials in package sizes less than the product reportable quantity,	**Explosive Limit and Limited Quantity Index** 5 **Passenger Carrying Road or Rail Index** 60	**Special provisions** 223	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. **Hazard identification number** 30 **Limited quantity** 5 L **Special provisions** 363 **Tunnel code**	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. **Emergency schedules (EmS)** F-E, S-E **Special provisions** 223, 363, 955	The environmentally hazardous substance mark may appear if required by other transportation regulations. **Passenger and Cargo Aircraft** Quantity limitation: 60 L Packaging instructions: 355 **Cargo Aircraft Only** Quantity limitation: 220 L Packaging instructions: 366

	unless transported by vessel. The marine pollutant mark is not required when transported on inland waterways in sizes of ≤5 L or ≤5 kg or by road, rail, or inland air in non-bulk sizes. **Reportable quantity** 40000 lbs / 18160 kg [6190.1 gal / 23432.3 L] Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements. **Limited quantity** Yes. **Packaging instruction** **Passenger aircraft** Quantity limitation: 60 L **Cargo aircraft** Quantity limitation: 220 L **Special provisions** 144, B1, IB3, T4, TP1, TP29			(D/E)		**Limited Quantities - Passenger Aircraft** Quantity limitation: 10 L Packaging instructions: Y344 **Special provisions** A3

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 4(a) final test rules**: nonane

TSCA 8(a) PAIR: nonane; naphthalene

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Water Act (CWA) 307: toluene; naphthalene

Clean Water Act (CWA) 311: toluene; naphthalene; hydrogen sulfide

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

DEA List II Chemicals (Essential Chemicals) : Listed

SARA 302/304

Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
hydrogen sulfide	0.0001	Yes.	500	-	100	-

SARA 304 RQ : 100000000 lbs / 45400000 kg [15475369.2 gal / 58580645.2 L]

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Naphtha	0 - 50	Yes.	No.	No.	Yes.	Yes.
Distillates (petroleum), hydrotreated light	0 - 50	Yes.	No.	No.	Yes.	No.
toluene	0 - 5	Yes.	No.	No.	Yes.	Yes.
1,2,4-trimethylbenzene	0 - 0.7	Yes.	No.	No.	Yes.	Yes.
nonane	0 - 0.7	Yes.	No.	No.	Yes.	No.
n-hexane	0 - 0.5	Yes.	No.	No.	Yes.	Yes.
naphthalene	0 - 0.2	Yes.	No.	No.	Yes.	Yes.
hydrogen sulfide	0.0001	Yes.	Yes.	No.	Yes.	No.

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	toluene naphthalene	108-88-3 91-20-3	0 - 5 0 - 0.2
Supplier notification	toluene naphthalene	108-88-3 91-20-3	0 - 5 0 - 0.2

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.

State regulations

Massachusetts : The following components are listed: NAPHTHA VM&P; TOLUENE

New York : The following components are listed: Toluene; Naphthalene

New Jersey : The following components are listed: NAPHTHA; BENZIN; TOLUENE; BENZENE, METHYL-; NAPHTHALENE; MOTH FLAKES

Pennsylvania : The following components are listed: NAPHTHA; BENZENE, METHYL-; NAPHTHALENE

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Naphtha	Yes.	No.	No.	No.
toluene	No.	Yes.	No.	7000 µg/day (ingestion) 13000 µg/day (inhalation)
naphthalene	Yes.	No.	Yes.	No.

Canada inventory : All components are listed or exempted.

International regulations

International lists : **Australia inventory (AICS)**: All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: Not determined.
Korea inventory: All components are listed or exempted.
Malaysia Inventory (EHS Register): Not determined.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.
Taiwan inventory (CSNN): Not determined.

Section 16. Other information

National Fire Protection Association (U.S.A.)

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

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Date of previous issue : No previous validation.

Version : 1

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
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
UN = United Nations

Indicates information that has changed from previously issued version.

Notice to reader

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