

SAFETY DATA SHEET

Waste Water



Section 1. Identification

Product name : Waste Water
Synonyms : Sewer Water

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 : 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 : Not applicable.
Disposal : Not applicable.

Hazards not otherwise classified : None known.

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
water	0 - 100	7732-18-5
ammonia, anhydrous	0 - 0.0025	7664-41-7
phenol	0 - 0.0005	108-95-2
Sulfide	0 - 0.0005	15035-72-0
benzene	0 - 0.0002	71-43-2

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 if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- Ingestion** : Do not induce vomiting unless directed to do so by medical personnel. Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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** : Material not being potable, and contains microorganisms/bacteria that could make someone ill.

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** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of medical responders** : 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** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

- 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** : No specific data.

- 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 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).

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. 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. 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. 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

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits		
ammonia, anhydrous	OSHA PEL 1989 (United States, 3/1989). STEL: 35 ppm 15 minutes. STEL: 27 mg/m ³ 15 minutes. OSHA PEL (United States, 2/2013). TWA: 50 ppm 8 hours. TWA: 35 mg/m ³ 8 hours.	ACGIH TLV (United States, 4/2014). TWA: 25 ppm 8 hours. TWA: 17 mg/m ³ 8 hours. STEL: 35 ppm 15 minutes. STEL: 24 mg/m ³ 15 minutes.	NIOSH REL (United States, 10/2013). TWA: 25 ppm 10 hours. TWA: 18 mg/m ³ 10 hours. STEL: 35 ppm 15 minutes. STEL: 27 mg/m ³ 15 minutes.
phenol	OSHA PEL 1989 (United States, 3/1989). Absorbed through skin. TWA: 5 ppm 8 hours. TWA: 19 mg/m ³ 8 hours.	ACGIH TLV (United States, 4/2014). Absorbed through skin. TWA: 5 ppm 8 hours. TWA: 19 mg/m ³ 8 hours.	NIOSH REL (United States, 10/2013). Absorbed through skin. TWA: 5 ppm 10 hours. TWA: 19 mg/m ³ 10 hours.

benzene	<p>OSHA PEL (United States, 2/2013). Absorbed through skin. TWA: 5 ppm 8 hours. TWA: 19 mg/m³ 8 hours.</p> <p>OSHA PEL 1989 (United States, 3/1989). TWA: 1 ppm 8 hours. STEL: 5 ppm 15 minutes.</p> <p>OSHA PEL Z2 (United States, 2/2013). TWA: 10 ppm 8 hours. CEIL: 25 ppm AMP: 50 ppm 10 minutes.</p> <p>OSHA PEL (United States, 2/2013). TWA: 1 ppm 8 hours. STEL: 5 ppm 15 minutes.</p>	<p>ACGIH TLV (United States, 4/2014). Absorbed through skin. TWA: 0.5 ppm 8 hours. TWA: 1.6 mg/m³ 8 hours. STEL: 2.5 ppm 15 minutes.</p> <p>STEL: 8 mg/m³ 15 minutes.</p>	<p>CEIL: 15.6 ppm 15 minutes. CEIL: 60 mg/m³ 15 minutes.</p> <p>NIOSH REL (United States, 10/2013). TWA: 0.1 ppm 10 hours. STEL: 1 ppm 15 minutes.</p>
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- 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.
- 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** : 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** : Clear./Gray.
- Odor** : Sewer
- Odor threshold** : Not available.
- pH** : 6 to 9
- Melting point** : Not available.
- Boiling point** : Not available.
- Flash point** : Not available.

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.
Specific gravity	: 1
Solubility	: Soluble 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	: Not available.
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	: No specific data.
Incompatible materials	: No specific data.
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

Not available.

Irritation/Corrosion

Not available.

Carcinogenicity

Product/ingredient name	OSHA	IARC	NTP
phenol	-	3	-
benzene	+	1	Known to be a human carcinogen.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

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

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.

Numerical measures of toxicity**Acute toxicity estimates**

Not available.

Section 12. Ecological information**Toxicity**

Product/ingredient name	Result	Species	Exposure	
ammonia, anhydrous	Acute EC50 29.2 mg/l Marine water	Algae - Ulva fasciata - Zoea	96 hours	
	Acute LC50 2080 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours	
	Acute LC50 0.53 ppm Fresh water	Daphnia - Daphnia magna	48 hours	
	Acute LC50 300 µg/l Fresh water	Fish - Hypophthalmichthys nobilis	96 hours	
	Chronic NOEC 1 mg/l Fresh water	Algae - Skeletonema costatum	3 days	
	Chronic NOEC 0.204 mg/l Marine water	Fish - Dicentrarchus labrax	62 days	
	phenol	Acute EC50 61.1 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
		Acute EC50 36 mg/l Marine water	Algae - Hormosira banksii - Gamete	72 hours
		Acute EC50 12000 µg/l Fresh water	Aquatic plants - Lemna minor	4 days
		Acute EC50 4200 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
benzene	Acute LC50 800 µg/l Marine water	Crustaceans - Archaeomysis kokuboi - Juvenile (Fledgling, Hatchling, Weanling)	48 hours	
	Acute LC50 1555 µg/l Fresh water	Fish - Cirrhinus mrigala - Larvae	96 hours	
	Chronic EC10 969 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours	
	Chronic IC10 2.38 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	21 days	
	Chronic NOEC 118 µg/l Fresh water	Fish - Oncorhynchus mykiss	90 days	
	Acute EC50 29000 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours	
benzene	Acute EC50 1360000 µg/l Fresh water	Algae - Scenedesmus abundans	96 hours	
	Acute EC50 9230 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours	
	Acute LC50 21000 µg/l Marine water	Crustaceans - Artemia salina - Nauplii	48 hours	
	Acute LC50 5.28 u/L Fresh water	Fish - Oncorhynchus gorbuscha - Fry	96 hours	

Waste Water		HollyFrontier Refining & Marketing LLC	
	Chronic NOEC 1.5 to 5.4 u/L Marine water	Fish - Morone saxatilis - Juvenile (Fledgling, Hatchling, Weanling)	4 weeks

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
phenol	301C Ready Biodegradability - Modified MITI Test (I)	85 % - 14 days	-	-
benzene	301C Ready Biodegradability - Modified MITI Test (I)	100 % - 14 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
water	-	-	Readily
ammonia, anhydrous	-	-	Readily
phenol	-	-	Readily
benzene	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
water	-1.38	-	low
ammonia, anhydrous	1.3	-	low
phenol	1.47	647	high
benzene	2.13	11	low

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. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	ADR/RID	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-	-	-

Waste Water		HollyFrontier Refining & Marketing LLC				
Transport hazard class(es)	-	-	-	-	-	-
Packing group	-	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.	No.
Additional information	-	-	-	-	-	-

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 : **United States inventory (TSCA 8b):** All components are listed or exempted.
Clean Water Act (CWA) 307: phenol; benzene
Clean Water Act (CWA) 311: ammonia, anhydrous; phenol; benzene

SARA 302/304

Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
ammonia, anhydrous	0 - 0.0025	Yes.	500	-	100	-
phenol	0 - 0.0005	Yes.	500 / 10000	-	1000	-

SARA 304 RQ : 8000000 lbs / 3632000 kg [959472.9 gal / 3632000 L]

SARA 311/312

Classification : Not applicable.

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
ammonia, anhydrous	0 - 0.0025	Yes.	Yes.	No.	Yes.	No.
phenol	0 - 0.0005	No.	No.	No.	Yes.	Yes.
Sulfide	0 - 0.0005	Yes.	Yes.	No.	Yes.	No.
benzene	0 - 0.0002	Yes.	No.	No.	Yes.	Yes.

State regulations

Massachusetts : None of the components are listed.

New York : None of the components are listed.

New Jersey : None of the components are listed.

Pennsylvania : None of the components are listed.

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
benzene	Yes.	Yes.	6.4 µg/day (ingestion) 13 µg/day (inhalation)	24 µg/day (ingestion) 49 µg/day (inhalation)

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:** All components are listed or exempted.
- 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):** All components are listed or exempted.

Section 16. Other information

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



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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

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named manufacturer, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.