

SAFETY DATA SHEET

1. Identification			
Product identifier	Secure Nipisi Heavy Crude		
Other means of identification			
Synonyms	Secure Nipisi HVY * Nipisi HVY * Wabasca Heavy Crude * Clearwater Heavy Crude * CWH * PCH * CHV * WH		
Recommended use	Refinery feedstock		
Recommended restrictions	None known.		
Details of the supplier of the s	safety data sheet		
Company name:	SECURE ENERGY		
Address:	2300, 225 6th Ave SW		
	Calgary, Alberta T2P 1N2		
Prepared by:	Regulatory Affairs		
Customer Support:	1-403-264-1588		
Emergency Number:	1-877-518-4321		
2. Hazard(s) identification	n		
Physical hazards	Flammable liquids	Category 1	
Health hazards	Skin corrosion/irritation	Category 2	
	Serious eye damage/eye irritation	Category 2	
	Germ cell mutagenicity	Category 1B	
	Carcinogenicity	Category 1A	
	Reproductive toxicity	Category 2	
	Specific target organ toxicity following single exposure	Category 3 narcotic effects	
	Specific target organ toxicity following repeated exposure	Category 2	
Label elements			
Signal word	Danger		
Hazard statement	Extremely flammable liquid and vapour. Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. May cause genetic defects. May cause cancer. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure.		
Precautionary statement			
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Do not breathe mist or vapour. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.		



Response	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical advice/attention. Call a POISON CENTRE/doctor if you feel unwell. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. In case of fire: Use appropriate media to extinguish.
Storage	Keep cool. Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Other hazards	None known.
Supplemental information	May contain or release poisonous hydrogen sulphide gas.

3. Composition/information on ingredients

Μ	ixtu	res
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Chemical name	Chemical name Common name and synonyms		%	
Petroleum distillates (naphth	na)	8002-05-9	80 - 100	
Constituents				
Chemical name	Common name and synonyms	CAS number	%	
Polycyclic Aromatic Hydroca	arbons	130498-29-2	Variable	
Butane		106-97-8	1 - 5	
Hexane		110-54-3	1 - 3	
Decane		124-18-5	0.1 - 3	
Heptane		142-82-5	0.1 - 3	
Nonane		111-84-2	0.1 - 3	
Pentane		109-66-0	0.1 - 3	
Xylene		1330-20-7	0.1 - 3	
Octane		111-65-9	0.1 - 2	
Toluene		108-88-3	0.1 - 1	
Benzene		71-43-2	<= 0.5	
Ethylbenzene		100-41-4	<= 0.5	
Hydrogen sulphide		7783-06-4	<= 0.0001	
All concentrations are in percer	nt by weight unless ingredient is a gas. Gas concer	ntrations are in percent by volu	ume.	
Composition comments	Occupational Exposure Limits for constituents component of Petroleum distillates.	Occupational Exposure Limits for constituents are listed in Section 8. Constituents are a component of Petroleum distillates.		
4. First-aid measures				
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTRE or doctor/physician if you feel unwell. This product may contain small amounts of Hydrogen sulphide which may accumulate in confined spaces. Inhalation of Hydrogen sulphide may cause loss of sense of smell, major irritation of the respiratory tract, headache, nausea, vomiting, dizziness, and fluid buildup in the lungs (pulmonary edema), which can be fatal.			

Take off immediate	all contaminated clothing. Rinse skin with water. If skin irritation occurs: Ge	ət
medical advice/atte	tion. Wash contaminated clothing before reuse.	

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed May cause drowsiness and dizziness. Headache. Nausea, vomiting. Severe eye irritation. May cause redness and pain. Prolonged exposure may cause chronic effects. This product may contain small amounts of Hydrogen sulphide which may accumulate in confined spaces. Inhalation of Hydrogen sulphide may cause loss of sense of smell, major irritation of the respiratory tract, headache, nausea, vomiting, dizziness, and fluid buildup in the lungs (pulmonary edema), which can be fatal.

Skin contact

Eye contact

Ingestion



Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed. Note to physician: Hydrosulfide anion is strongly bound to hemoglobin in a manner similar to cyanide. A dose of sodium nitrite would produce methemoglobin in the blood which would then partially inactivate this poison.
General information	Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Water may be ineffective.
Specific hazards arising from the chemical	Vapours may form explosive mixtures with air. Vapours may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed. May contain or release poisonous hydrogen sulphide gas.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Cool containers with flooding quantities of water until well after fire is out. In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Extremely flammable liquid and vapour.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Isolate spill or leak area immediately for at least 50 to 100 meters (150 to 330 feet) in all directions. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapour. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. May contain or release poisonous hydrogen sulphide gas.
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil etc) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. The product is immiscible with water and will spread on the water surface. Prevent entry into waterways, sewer, basements or confined areas.
	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.
	Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
Environmental precautions	Never return spills to original containers for re-use. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage Obtain special instructions before use. Do not handle until all safety precautions have been read Precautions for safe handling and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe mist or vapour. Avoid contact with eyes, skin, and clothing. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. May contain or release poisonous hydrogen sulphide gas. Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge Conditions for safe storage, build-up by using common bonding and grounding techniques. Store in a cool, dry place out of including any incompatibilities direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

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Components referred to herein may be regulated by specific Canadian provincial legislation. Please refer to exposure limits legislated for the province in which the substance will be used.

ACGIH			
Constituents	Туре	Value	
Polycyclic Aromatic Hydrocarbons (CAS 130498-29-2)	TWA	0.2 mg/m3	
Comments: Value	e for benzene-soluble coal tar pitch fr	action	
US. ACGIH Threshold Limit V	alues		
Constituents	Туре	Value	
Toluene (CAS 108-88-3)	TWA	20 ppm	
Octane (CAS 111-65-9)	TWA	300 ppm	
Heptane (CAS 142-82-5)	STEL	500 ppm	
	TWA	400 ppm	
Hexane (CAS 110-54-3)	TWA	50 ppm	
Nonane (CAS 111-84-2)	TWA	200 ppm	
Pentane (CAS 109-66-0)	TWA	1000 ppm	
Xylene (CAS 1330-20-7)	STEL	150 ppm	
	TWA	100 ppm	
Butane (CAS 106-97-8)	STEL	1000 ppm	
Hydrogen sulphide (CAS 7783-06-4)	STEL	5 ppm	
	TWA	1 ppm	
Benzene (CAS 71-43-2)	STEL	2.5 ppm	
	TWA	0.5 ppm	
Ethylbenzene (CAS 100-41-4)	TWA	20 ppm	

Biological limit values

Constituents	Value	Determinant	Specimen	Sampling time
Polycyclic Aromatic Hydrocarbons (CAS 130498-29-2)	2.5 µg/l	1-Hydroxypyre ne, with hydrolysis (1-HP)	Urine	*
ACGIH Biological Expo Constituents	sure Indices Value	Determinant	Specimen	Sampling time
Toluene	0.3 mg/g	o-Cresol, with	Creatinine in	*
(CAS 108-88-3)		hydrolysis	urine	
	0.03 mg/l	Toluene	Urine	*
	0.02 mg/l	Toluene	Blood	*
Hexane (CAS 110-54-3)	0.4 mg/l	2,5-Hexanedio ne, without hydrolysis	Urine	*
Xylene (CAS 1330-20-7)	1.5 g/g	Methylhippuric acids	Creatinine in urine	*
Benzene (CAS 71-43-2)	25 µg/g	S-Phenylmerca pturic acid	Creatinine in urine	*
Ethylbenzene (CAS 100-41-4)	0.15 g/g	Sum of mandelic acid and phenylglyoxylic acid	Creatinine in urine	*
* - For sampling details, p	lesse see the source	document		
		, document.		
posure guidelines				
US ACGIH Threshold L		-		
Benzene (CAS 71-4			absorbed throug	
Hexane (CAS 110-5			absorbed throug	
propriate engineering htrols	changes per h applicable, use maintain airbo established, m	Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station with plen water. Eye wash fountain and emergency showers are recommended.		
ividual protection measu Eye/face protection		nal protective equipment asses with side shields (
		(5.00 /	
Skin protection Hand protection	Wear appropri	ate chemical resistant gl	oves.	
Skin protection	Wear appropri	5		impervious apron is recommended. Us
Skin protection Hand protection	Wear appropri of impervious In case of insu organic vapou is any potentia	ate chemical resistant clo boots is recommended. fficient ventilation, wear r cartridge and full facepi I for an uncontrolled rele	othing. Use of an suitable respirato ece. Use a positi ase, exposure lev	ry equipment. Chemical respirator with
Skin protection Hand protection Other	Wear appropri of impervious In case of insu organic vapou is any potentia circumstances	ate chemical resistant clo boots is recommended. fficient ventilation, wear r cartridge and full facepi I for an uncontrolled rele	bthing. Use of an suitable respirato ece. Use a positi ase, exposure lev irators may not p	ve-pressure air-supplied respirator if the /els are not known, or any other rovide adequate protection.

General hygiene considerations

Observe any medical surveillance requirements. When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.



9. Physical and chemical properties

Appearance	
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Appearance	
Physical state	Liquid.
Colour	Brown.
Odour	Petroleum
Odour threshold	Not available.
рН	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	34 °C (93.2 °F)
Flash point	< -20.0 °C (< -4.0 °F) Pensky-Martens Closed Cup
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or exp	losive limits
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit – upper (%)	Not available.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	0.925
Relative density temperature	15 °C (59 °F)
Solubility(ies)	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	194.4 cSt
Viscosity temperature	15 °C (59 °F)
Other information	
Density	920.00 - 930.00 kg/m3
Pour point	-39 °C (-38.2 °F)
40 Stability and reactivity	

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May be harmful if inhaled. May cause damage to organs through prolonged or repeated exposure by inhalation. May cause drowsiness and dizziness.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. Exposure to hydrogen sulphide can cause temporary loss of the sense of smell and irritation of the eyes, nose or throat.

Information on toxicological effects

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Respiratory or skin sensitization	ı	
Respiratory sensitization	Not a respiratory sensitizer.	
Skin sensitization	This product is not expected to	o cause skin sensitization.
Germ cell mutagenicity	May cause genetic defects.	
Carcinogenicity	May cause cancer.	
ACGIH Carcinogens		
Benzene (CAS 71-43-2) Ethylbenzene (CAS 100-4	41-4)	A1 Confirmed human carcinogen. A3 Confirmed animal carcinogen with unknown relevance to humans.
Toluene (CAS 108-88-3) Xylene (CAS 1330-20-7)		A4 Not classifiable as a human carcinogen. A4 Not classifiable as a human carcinogen.
IARC Monographs. Overall I	Evaluation of Carcinogenicity	
Benzene (CAS 71-43-2) Polycyclic Aromatic Hydro	htha) (CAS 8002-05-9) ogram (NTP) Report on Carcin ocarbons (CAS 130498-29-2)	Known To Be Human Carcinogen. Reasonably Anticipated to be a Human Carcinogen.
Reproductive toxicity	Repeated dermal application developmental toxicity and fet	y or the unborn child. Possible risk of harm to the unborn child. of crude oils to pregnant rats produced maternal toxicity and fetal al tumours. Benzene and Xylene have caused adverse fetal effects re to Toluene may affect the developing fetus.
Specific target organ toxicity - single exposure	May cause drowsiness and di	zziness.
Specific target organ toxicity - repeated exposure	May cause damage to organs	through prolonged or repeated exposure.
Aspiration hazard	Not an aspiration hazard.	
Chronic effects	May cause damage to organs	through prolonged or repeated exposure.
12 Ecological information		

12. Ecological information

otoxicity	Toxic to a	quatic life with long lasting effects.	
Components		Species	Test results
Petroleum distillates (r	naphtha) (CAS 800	2-05-9)	
Aquatic			
Fish	LC50	Cutthroat trout (Oncorhynchus clarki)	2.1 - 4.3 mg/l, 96 hours
Constituents		Species	Test results
Hydrogen sulphide (CA	AS 7783-06-4)		
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	0.009 mg/l, 96 hours
Benzene (CAS 71-43-	2)		
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	8.76 - 15.6 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	7.2 - 11.7 mg/l, 96 hours
Ethylbenzene (CAS 10	00-41-4)		
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	1.37 - 4.4 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)7.5 - 11 mg/l, 96 hours

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Constituents		Species	Test results
Toluene (CAS 108-88-3)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	5.46 - 9.83 mg/l, 48 hours
Fish	LC50	Coho salmon,silver salmon (Oncorhynchus kisutch)	8.11 mg/l, 96 hours
Decane (CAS 124-18-5)			
Aquatic			
Fish	LC50	Sheepshead minnow (Cyprinodon variegatus)	> 500 mg/l, 96 hours
Heptane (CAS 142-82-5)			
Aquatic			
Fish	LC50	Mozambique tilapia (Tilapia mossambica)	375 mg/l, 96 hours
Hexane (CAS 110-54-3)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	2.101 - 2.981 mg/l, 96 hours
Xylene (CAS 1330-20-7)			
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	7.711 - 9.591 mg/l, 96 hours
ersistence and degradability	No data is	s available on the degradability of any ingredier	nts in the mixture.
ioaccumulative potential	No data available.		
obility in soil	No data available.		
ther adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.		
3. Disposal consideration	ons		
inneral instructions	Callastar	od roclaim ar dispasa in saalad containars at lic	anned wests dispessed site. Dispesse of

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

TDG

UN1267
Petroleum crude oil
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Not available.
Read safety instructions, SDS and emergency procedures before handling.
UN1267
Petroleum crude oil

Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	
Environmental hazards	No.
ERG Code	3L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.
IMDG	
UN number	UN1267
UN proper shipping name	PETROLEUM CRUDE OIL, MARINE POLLUTANT
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	I
Environmental hazards	
Marine pollutant	Yes
EmS	F-E, S-E
· · ·	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to	Not established.
Annex II of MARPOL 73/78 and the IBC Code	
IATA: IMDG: TDG	

IATA; IMDG; TDG



Marine pollutant



General information

IMDG Regulated Marine Pollutant.

15. Regulatory information

Canadian regulations

This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

Canada CEPA Schedule I: Listed substance

Benzene (CAS 71-43-2)

Listed.



Canada NPRI (Supplier Notification Required): Listed substance

Benzene (CAS 71-43-2)	Listed.
Ethylbenzene (CAS 100-41-4)	Listed.
Hexane (CAS 110-54-3)	Listed.
Hydrogen sulphide (CAS 7783-06-4)	Listed.
Toluene (CAS 108-88-3)	Listed.
Xylene (CAS 1330-20-7)	Listed.

International Inventories

Country(s) or region	Inventory name On inventory (y	es/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes
	nents of this product are listed on the inventory administered by the governing country(s) or are exempt. components of the product are not listed on the inventory administered by the governing country(s).	

16. Other information

Issue date	06-June-2023
Revision date	06-June-2023
Version No.	1.0
Disclaimer	The information contained herein is based on data available to us, and is believed to be true and accurate. However, no guarantee or warranty is provided, expressed or implied, by the company or its subsidiaries regarding accuracy of the information, the hazards connected with the use of the material, or the results to be obtained from the use thereof. Since the use of this product is within the exclusive control of the user, we do not assume any responsibility and expressly disclaim any liability for any use of this product. It is the user's responsibility to determine the conditions of safe use, storage, and disposal of the product. Compliance with all applicable federal, state, and local regulations remains the responsibility of the user.