Neo WaterFX 300

SAFETY DATA SHEET (SDS)

Version: 04
Date of Issue: September 1, 2023

According to: OSHA Hazard Communication Standard 29 CFR 1910.1200(g) Rev. 2012; WHMIS 2015 (Hazardous Products Regulations)

SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION

Product Name: Neo WaterFX 300
Synonyms: Rare Earth Chloride
Product Code: Not Available
Product Use: Aqueous phosphorous reduction media for wastewater treatment

Manufacturer/Supplier Identification:
Neo Chemicals & Oxides, LLC
8101 E. Prentice Avenue, Suite 525
Greenwood Village, CO 80111
Telephone: +1 (303) 843-8040
Facsimile: +1 (303) 843-8082

PRODUCT INFORMATION
Safety Data Sheet Requests: +1 (303) 843-8040 (8am - 4pm, Mountain Time, Mon-Fri)

EMERGENCY INFORMATION
Emergency telephone number:
CHEMTREC: +1 (800) 424-9300 (within the US) or +1 (703) 527-3887 (outside the US)

Health Emergency:
American Association of Poison Control Center +1 (800) 222-1222 (within the US)

SECTION 2 – HAZARD IDENTIFICATION

Global Harmonized System (GHS) Classification:

Health	Environmental	Physical
Skin Corrosion/Irritation – Category 2	Aquatic Acute - Category 3	None
Serious Eye Damage/Irritation – Category 2A		
Skin Sensitization – Category 1		

Label Pictogram:

Signal Word: **WARNING**

Hazard Statements	Precautionary Statements
H315: Causes skin irritation	P260: Do not breathe dust/fume/gas/mist/vapors/spray
H319: Causes serious eye irritation	P261: Avoid breathing dust/fume/gas/mist/vapors/spray.
H317: May cause an allergic skin reaction.	P264: Wash hands thoroughly after handling
H402: Harmful to aquatic life	P265: Do not touch eyes
	P271: Use only outdoors or in a well-ventilated area
	P272: Contaminated work clothing should not be allowed out of the workplace.
	P273: Avoid release to the environment
	P280: Wear protective gloves/protective clothing/eye protection/face protection
	P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
	P302+P361+P354: IF ON SKIN: Take off Immediately all contaminated clothing. Immediately rinse with water for several minutes
	P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing
	P305+P354+P338: IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing
	P316: Get emergency medical help immediately.
	P362+P364: Take off contaminated clothing and wash it before reuse.
	P403+P233: Store in a well-ventilated place. Keep container tightly closed
	P405: Store locked up.
	P501: Place contaminated materials in disposal containers and dispose of in a manner consistent with applicable regulations

SECTION 3 – COMPOSITION/ INFORMATION ON INGREDIENTS

CAS NUMBER	EC NUMBER (EINECS/ELINCS)	CHEMICAL NAME	PERCENT (% weight)	GHS HAZARDS
7790-86-5	231-791-2	Cerium (III) trichloride	≤45%	H314: Causes severe skin burns and eye damage H318: Causes serious eye damage H400: Very toxic to aquatic life H410: Very toxic to aquatic life with long lasting effects
10099-58-8	233-237-5	Lanthanum (III) chloride	≤45%	H290: May be corrosive to metals H318: Causes serious eye damage H317: May cause an allergic skin reaction H411: Toxic to aquatic life with long lasting effects
7732-18-5	215-1855	Water	≥55%	None

SECTION 4 – FIRST AID MEASURES

Eye: For direct eye contact, immediately hold eyelids apart and flush the affected eye(s) continuously with running water. Ensure complete irrigation of the eye by keeping eyelids apart and away from the eye(s) and moving the eyelids by occasionally lifting the upper and lower lids. Continue flushing until advised by the Poison Center/doctor, or for at least 15 minutes. Seek immediate medical attention.

Skin: For skin or hair contact, immediately flush affected area(s) with large amounts of water, using safety shower if available. Quickly remove all contaminated shoes, clothing, and restrictive jewelry. If skin surface is damaged, apply a clean dressing, and seek immediate medical attention. If skin surface is not damaged, cleanse the affected area(s) thoroughly by washing with mild soap and water. Continue flushing until advised by the Poison Center/doctor, or for at least 15 minutes. Seek immediate medical attention.

Inhalation: No specific first aid measures are required. If exposed to excessive levels of product in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Ingestion: No specific first aid measures are required. Rinse mouth with water. Do not induce vomiting. Seek medical attention as a precaution.

SECTION 5 – FIRE FIGHTING MEASURES

Flash Point: Not applicable

Flammable Limits: Not applicable

Suitable extinguishing media: Use extinguishing media suitable for surrounding area if this product is involved in a fire (e.g., fog, foam, dry chemical, or carbon dioxide).

Specific hazards arising from the chemical: This material is harmful to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Special protective actions for firefighters: None known. This material will not burn.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal precautions: Prevent contact with skin or eyes. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater.

Containing environmental effects: Where feasible and appropriate, remove contaminated soil. Secure load if safe to do so. Collect recoverable product and place contaminated materials in disposable containers. Dispose of in a manner consistent with applicable regulations.

Measures when handling spilled substance: Clean up spill as soon as possible, observing precautions in Section 8. Use appropriate techniques such as applying non-combustible absorbent materials or pumping**.**

Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 – HANDLING AND STORAGE

Precautions for safe handling: Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water other than those being treated.

Conditions for safe storage: Store in a closed container. Store in a cool, well-ventilated area.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

Note: This material is a liquid that is not expected to form dust or volatiles

Exposure limit values No occupational exposure limit values have been established for the components in this product.

Appropriate engineering controls

Work/Hygienic practices: Consider the potential hazards of this material, applicable exposure limits, job activities, and other substances in the workplace when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended.

Ventilation: Use in a well-ventilated area.

Other equipment: The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

Environmental protection: Take measures to prevent material from being released to soil, water, or air. Where feasible and appropriate, remove contaminated soil if released to ground. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

Individual protection measures - Personal protective equipment (PPE)

Eye/Face Protection: The use of a face shield and/or chemical goggles to safeguard against potential eye contact, irritation, or injury is recommended.

Hands/Skin Protection: The use of gloves impermeable to the specific material handled is advised to prevent skin contact, possible irritation, absorption, and skin damage (i.e. Nitrile gloves) – see glove manufacturer literature for permeability information. Depending on use conditions, apron, arm covers, or other impervious clothing may be necessary.

Respiratory Protection: None required where adequate ventilation conditions exist.

Thermal Hazards: None known.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Note: The data below are typical values and do not constitute a specification.

Appearance Physical state: Color: Odor/Odor threshold:	 Liquid Colorless to Amber Mild	Vapor density (Air = 1): Specific gravity (Water = 1):	Not applicable 1.26-1.63 solution @ 20° C
pH:	3.3-4.0	Partition Coefficient: n-octanol/water	No data available
Melting/freezing point:	-40 °C (-40 °F)	Water solubility:	High
Boiling point/range:	No data available	Auto-ignition Temperature:	Not applicable
Flash point:	Not applicable	Decomposition Temperature:	Not applicable
Evaporation rate:	Not applicable	Viscosity:	Not applicable
Flammability:	Non-flammable	Oxidizing properties:	Not applicable
Upper/lower flammability limits	Non-flammable	Molecular Weight:	Proprietary
Vapor pressure:	Not applicable	Relative density:	No data available

SECTION 10 – STABILITY AND REACTIVITY

Reactivity: This product is considered stable under normal storage and handling conditions.

Chemical stability: This product is considered stable under normal storage and handling conditions.

Possibility of hazardous reactions: **S**ome ingredients are corrosive to metals; product testing indicates that the mixture does not meet classification criteria for corrosive to metals.

Conditions to avoid: Avoid generating dust. Keep out of water supplies and sewers.

Incompatibility: Incompatible with oxidizing reagents, can generate hazardous chlorine gas.

Hazardous decomposition products: See above.

References:
Product Safety Labs. WaterFX 300: Corrosivity.

SECTION 11 – TOXICOLOGICAL INFORMATION

Likely routes of exposure: Eye and skin contact.
Potential signs and symptoms of overexposure: Skin and eye irritation

Acute Effects
Oral toxicity: Oral LD50 (rat) >5,000 mg/kg
Dermal toxicity: No information found

Inhalation toxicity: Not likely route of exposure - No information found

Skin corrosion/irritation: A primary skin irritation test was conducted using the MatTek EpiDerm™ Tissue Model (EPI-200-SIT) kit (MatTek Corporation, Ashland, MA) to determine the potential for WaterFX 300 to produce irritation after a single topical application. Under the conditions of this study, WaterFX 300 is classified as non-corrosive to the skin.

Serious eye damage/irritation: Causes serious eye irritation.

Skin sensitization: May cause an allergic skin reaction.

Respiratory sensitization: No data available

Other Health Effects

Germ Cell Mutagenicity: Rare earth chlorides were negative in the Ames bacterial mutagenic test using bacterial strains TA135, TA1537, TA98, TA100, TA102, and WP2uvrA.

Carcinogenicity: Not assessed by IARC, NTP or USEPA for carcinogenicity.

Developmental/Reproductive Toxicity: Taking into account all available information on the effects of various lanthanum salts on reproduction parameters, it can be concluded that lanthanum chloride does neither affect fertility nor mating performance in rats of both sexes at doses up to and including 2000 mg/kg bw/day.

Specific target organ toxicity (single exposure): Inhalation of corrosive substances as dust/fume/gas/mist/vapors/spray may cause respiratory irritation and/or delayed lung edema.

Specific target organ toxicity (repeated exposure): Chronic oral exposure to rare earth chlorides may cause toxic effects to the liver and spleen based on experimental animal data.

Aspiration hazard: No data available

References:

ECHA Registered Substances Database. May 2022

MB Research Labs. WaterFX 300: EpiDerm™ Skin Corrosion Test (SCT). August 11, 2023.

SECTION 12 – ECOLOGICAL INFORMATION

Toxicity: Cerium chloride and lanthanum chloride are classified for Environmental Hazards according to the ECHA database. Toxicity to fish and invertebrates (daphnia) has been determined for WaterFX 300. This product specific data take precedent over ingredient data.

Chemical	Species	Toxicity
WaterFX 300	Fathead Minnow	96–hour LC50: 191 mg/L NOEC(96 hr): 125 mg/L 7-day LC25: 2.1 mg/L NOEC(7 day): 1.3 mg/L LOEC(7 day): 2.5 mg/L
	Rainbow Trout	96–hour LC50: 10.4 mg/L NOEC(96 hr): 5.0 mg/L
	Ceriodaphnia dubia	48–hour LC50: 16.4 mg/L NOEC(48 hr): 7.8 mg/L 7-day LC25: 2.0 mg/L NOEC(7 day): 1.6 mg/L LOEC(7 day): 3.1 mg/L

Persistence and biodegradability: This product is not considered to be rapidly biodegradable

Bioaccumulation potential: No data available.

Mobility in soil: No data available.

Other adverse effects: No data available.

References:
ECHA Registered Substances Database. August, 2023
NEO WaterFX 300 SDS; Neo Chemicals & Oxides, LLC

SECTION 13 – DISPOSAL CONSIDERATIONS

Disposal methods: Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste federal law requires disposal at a licensed hazardous waste disposal facility. Chemical additions, processing or otherwise altering this material may make waste management information presented in the SDS incomplete.

Container: Place contaminated materials in disposal containers and dispose of in a manner consistent with applicable regulations.

SECTION 14 – TRANSPORT INFORMATION

Agency:	Shipping Description:
DOT/TDG	NOT REGULATED AS A HAZARDOUS MATERIAL FOR TRANSPORTATION UNDER DOT 49 CFR
IMO/IMDG	NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE
ICAO/IATA	NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

SECTION 15 – REGULATORY INFORMATION

Chemical Safety Assessment: None available

United States Federal Regulations:
Comprehensive Environmental Response and Liability Act of 1980 (CERCLA):
This material is not listed under CERCLA and has no reportable quantity.
Clean Water Act (CWA): No components in this product are listed as toxic pollutants.
Clean Air Act (CAA): No components in this product are listed as hazardous air pollutants.
Superfund Amendments and Reauthorization Act (SARA) Title III Information:

SARA 302 Components: No components in this product are subject to reporting requirements of S.302.
SARA 311/312 Hazards: Acute/Chronic Health Hazard
SARA 313 Components: No components in this product are subject to reporting levels established by S.313.
Toxic Substances Control Act: This material is listed on the TSCA inventory.

State:
California: This material is not listed under Proposition 65 (CA Health & Safety Code Section 25249.5).
Massachusetts: No components in this product are listed under the Right to Know Act (RTK).
New Jersey: No components in this product are listed under the RTK.

Pennsylvania: No components in this product are listed under the RTK.

Canada:
DSL/NDSL: All components are listed or exempt.

Other:
IARC: No components in this product are classified as probable, possible, or confirmed human carcinogens.
NTP: No components in this product are classified as known or reasonably anticipated carcinogens.

SECTION 16 – OTHER INFORMATION

National Fire Protection Association (NFPA) Ratings: This information is provided solely for the use of individuals trained in the NFPA system.

Health: 1
Flammability: 0
Reactivity: 0

Acronyms and abbreviations that may have been used in this document:

CAS: Chemical Abstract Service Number	LD50: Lethal Dose 50%
CAA: Clean Air Act	LOEC: Lowest Observed Effect Concentration
CERCLA: Comprehensive Environmental Response and Liability Act	NDSL: Non-domestic Substances List
CWA: Clean Water Act	NOEC: No Observed Effect Concentration
DOT: Department of Transport	NFPA: National Fire Protection Association
DSL: Domestic Substance List	NTP: National Toxicology Program
EC: European Community	OSHA: Occupational Safety and Health Administration
ECHA: European Chemicals Agency	PPE: Personal Protective Equipment
EINECS: European Inventory of Existing Chemical Substances	RCRA: Resource Conservation and Recovery Act
ELINCS: European List of Notified Chemical Substances	RTK: Right to Know
GHS: Global Harmonized System of Classification and Labelling of Chemicals	SARA: Superfund Amendment and Reauthorization Act
IARC: International Agency for Research on Cancer	SDS: Safety Data Sheet
IATA: International Air Transport Association	TDG: Transportation of Dangerous Goods
ICAO: International Civil Aviation Organization	TSCA: Toxic Substances Control Act:
IMO: International Maritime Organization	US EPA: US Environmental Protection Agency
IMDG: International Maritime Dangerous Goods	WHMIS: Workplace Hazardous Materials Information System
LC50: Lethal Concentration 50%	

Revision Indicator: This is a revision.

Creation Date: September 1, 2023

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.