

1. Identification**Product identifier** 378 SEWAGE TREATMENT SLUDGE**Other means of identification**
SDS number KWAR-02**Version #** 01**Revision date** Not Applicable**Other means of identification**
Synonyms Sewage sludge**Recommended use** Waste**Recommended restrictions** For industrial use only.**Manufacturer/Importer/Supplier/Distributor information****Manufacturer**Kaiser Aluminum Warrick LLC
4400 W. State Route 66
Newburgh, IN 47629**Emergency Information** CHEMTREC: +1-703-527-3887 +1-800-424-9300 (24 Hour Emergency Telephone, multiple languages spoken); Kaiser Warrick: +1-877-335-9886 (24 Hour Emergency Telephone, only English spoken)**Website** For a current Safety Data Sheet, refer to Kaiser Aluminum website:
<https://www.kaiseraluminum.com/customer-portal/safety-data-sheets/>**2. Hazard(s) identification****Potential health effects**

The following statements summarize the health effects generally expected in cases of overexposures. User specific situations should be assessed by a qualified individual. Additional health information can be found in Section 11.

Physical hazards Not classified.**Health hazards** Not classified.**Environmental hazards** Hazardous to the ozone layer Not applicable**OSHA defined hazards** Not classified.**Label elements****Hazard symbol** None.**Signal word** None.**Hazard statement** The mixture does not meet the criteria for classification.**Precautionary statement****Prevention** Wash thoroughly after handling.**Response** IF exposed or concerned: Get medical advice/attention.

Storage	Store in a well-ventilated place.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	<p>Dusts and mists: Can cause irritation of the eyes, skin and upper respiratory tract. May contain fecal coliform bacteria.</p> <p>Hydrogen sulfide can be generated through bacterial action under anaerobic (lack of oxygen) conditions. Can cause irritation of the respiratory tract. Acute overexposure: Can cause sore throat, shortness of breath, headache, confusion and loss of coordination. Oxygen deficiency may result when the material is stored in a confined or poorly ventilated space.</p> <p>Detection of hydrogen sulfide by its odor may not be effective. Short- term high concentration exposure as well as chronic low concentration exposures can cause paralysis of the sense of smell (olfactory fatigue).</p> <p>Non-combustible. Not an explosion hazard.</p>

3. Composition/information on ingredients

Composition comments Complete composition is provided below and may include some components classified as non-hazardous.

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Water		7732-18-5	90 - 96
Biological solids		Not available	4 - 10

4. First-aid measures

Eye contact	Rinse eyes with plenty of water or saline for at least 15 minutes. Consult a physician.
Skin contact	Wash with soap and water for at least 15 minutes. Get medical attention if irritation develops or persists.
Inhalation	Remove to fresh air. Check for clear airway, breathing, and presence of pulse. If breathing is difficult, provide oxygen. Loosen any tight clothing on neck or chest. Provide cardiopulmonary resuscitation for persons without pulse or respirations. Consult a physician.
Ingestion	If swallowed, dilute by drinking water. Recommend quantities up to 30 mL (~1 oz.) in children and 250 mL (~9 oz.) in adults. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do NOT induce vomiting. Consult a physician.
Most important symptoms/effects, acute and delayed	<p>Dust and mists: Can cause irritation of the eyes, skin and upper respiratory tract. May contain fecal coliform bacteria.</p> <p>Hydrogen sulfide can be generated through bacterial action under anaerobic (lack of oxygen) conditions. Can cause irritation of the respiratory tract. Acute overexposures: Can cause sore throat, shortness of breath, headache, confusion and lack of coordination. See Section 11 of the SDS for additional information on health hazards.</p>
Medical conditions aggravated by exposure	Asthma, chronic lung disease, and skin rashes.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Use fire fighting methods and materials that are appropriate for surrounding fire.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	None known.
Special protective equipment and precautions for firefighters	Firefighters should wear NIOSH approved, positive pressure, self-contained breathing apparatus and full protective clothing when appropriate.

General fire hazards Non-combustible. Not an explosion hazard.

Explosion data

Sensitivity to mechanical impact Not sensitive.

Sensitivity to static discharge Not sensitive.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Avoid contact with skin and eyes. Use personal protection recommended in Section 8 of the SDS.

Personal precautions, protective equipment and emergency procedures

For emergency responders Avoid contact with skin and eyes. Use personal protection recommended in Section 8 of the SDS.

Evacuation procedures Keep unnecessary personnel away.

Methods and materials for containment and cleaning up Vacuum as much material as possible and dispose of in treatment plant. Ensure that no contamination is present in the sludge that will upset or be fatal to the biomass in the treatment plant. Absorb remainder with absorbent material. Absorb remainder with absorbent material. Containerize for disposal. Disinfect spill area with a mild bleach solution (sodium hypochlorite) with a contact time greater than 15 minutes.

7. Handling and storage

Handling Avoid contact with skin and eyes. Avoid generating dust or mist. Use personal protection recommended in Section 8 of the SDS.

Storage Oxygen deficiency may result when the material is stored in a confined or poorly ventilated space. Do not store in enclosed containers for extended periods due to potential to generate methane gas.

8. Exposure controls/personal protection

Occupational exposure limits No exposure limits noted for ingredient(s).

General The need for personal protective equipment should be based upon a hazard assessment and recommendations from health / safety professionals.

Appropriate engineering controls Use with adequate ventilation to meet the limits listed in Section 8.

Individual protection measures, such as personal protective equipment

Eye/face protection Safety glasses with full side shields or goggles recommended.

Skin protection

Hand protection Suitable materials: Synthetics: Nitrile, Neoprene, and Vinyl
The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

Other Wear appropriate gloves and clothing to avoid direct skin contact.

Respiratory protection Use NIOSH-approved respiratory protection as specified by an Industrial Hygienist or other qualified professional if concentrations exceed the limits listed in Section 8. Suggested respiratory protection: N95 supplied air respirators may be required in the event of an oxygen deficient atmosphere.

Thermal hazards None known.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

Control parameters Follow standard monitoring procedures.

9. Physical and chemical properties

Form Sludge.

Color Light brown to dark brown.

Odor Sewage odor.

Odor threshold Not determined

pH 6.5 - 7.5

Density 8.34 lb/gal

Melting point/freezing point 32 °F (0 °C)

Initial boiling point and boiling range	212 °F (100 °C)
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - upper (%)	Not available.
Flammability limit - lower (%)	Not available.
Explosive properties	Not available.
Vapor pressure	Not determined
Vapor density	Not determined
Relative density	Not available.
Solubility(ies)	Suspended solids are not soluble
Partition coefficient (n-octanol/water)	Not determined
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Stable under normal conditions of use, storage, and transportation.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	None known.
Incompatible materials	None known.
Hazardous decomposition products	None known.

11. Toxicological information

Health effects associated with compounds formed during processing

Hydrogen sulfide is not an intentional component but can be generated through bacterial action under anaerobic (lack of oxygen) conditions.

Hydrogen sulfide gas: Can cause irritation of eyes and respiratory tract. Acute overexposures: Can cause sore throat, shortness of breath (dyspnea), headache, confusion, loss of coordination and loss of sense of smell (anosmia). Acute overexposures (high concentrations - >400 ppm): Can cause impaired motor function, loss of consciousness, the accumulation of fluid in the lungs (pulmonary edema) and death.

Information on likely routes of exposure

Eye contact	Direct contact: Can cause irritation.
Skin contact	Prolonged or repeated skin contact may cause irritation.
Inhalation	Dust and mists: Can cause irritation of the upper respiratory tract.

Hydrogen sulfide can be generated through bacterial action under anaerobic (lack of oxygen) conditions. Can cause irritation of the respiratory tract. Acute overexposures: Can cause sore throat, shortness of breath, headache, confusion and loss of coordination.

Detection of hydrogen sulfide by its odor may not be effective. Short- term high concentration exposure as well as chronic low concentration exposures can cause paralysis of the sense of smell (olfactory fatigue).

Ingestion Can cause irritation of the gastrointestinal tract.

Symptoms related to the physical, chemical and toxicological characteristics Dust and mists: Can cause irritation of the eyes, skin and upper respiratory tract. May contain fecal coliform bacteria.

Information on toxicological effects

Acute toxicity	Based on available data, the classification criteria are not met.
Skin corrosion/irritation	Based on available data, the classification criteria are not met.
Serious eye damage/eye irritation	Based on available data, the classification criteria are not met.
Respiratory or skin sensitization	
Respiratory sensitization	Based on available data, the classification criteria are not met.
Skin sensitization	Based on available data, the classification criteria are not met.
Germ cell mutagenicity	Based on available data, the classification criteria are not met.
Pre-existing conditions aggravated by exposure	Asthma, chronic lung disease, and skin rashes.
Carcinogenicity	Based on available data, the classification criteria are not met.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

US OSHA Hazard Categories (10)

Not regulated.

US OSHA Hazard Categories (9)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Reproductive toxicity	Based on available data, the classification criteria are not met.
Specific target organ toxicity - single exposure	Based on available data, the classification criteria are not met.
Specific target organ toxicity - repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Based on available data, the classification criteria are not met.

12. Ecological information

Ecotoxicity	No ecotoxicity data noted for the ingredient(s).
Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	No data available on bioaccumulation.
Mobility in soil	No data available.
Other adverse effects	None known.

13. Disposal considerations

Disposal instructions	Disposal must be made according to local or governmental regulations.
Waste codes	RCRA Status: Not federally regulated in the U.S. if disposed of "as is." RCRA waste codes other than described here may apply depending on use of the product. Status must be determined at the point of waste generation. Refer to 40 CFR 261 or state equivalent in the U.S.
Waste from residues / unused products	If reuse or recycling is not possible, disposal must be made according to local or governmental regulations.
Contaminated packaging	Dispose of in accordance with local regulations.

14. Transport information

General Shipping Information

Basic Shipping Information

ID number	-
Proper shipping name	Not regulated
Hazard class	-
Packing group	-

General Shipping Notes

- When "Not regulated", enter the proper freight classification, SDS Number and Product Name onto the shipping paperwork.

DOT Specific Notes

- According to 49 CFR 173.134(b)(13)(ii) & (iii), sanitary waste or sewage sludge is NOT subject to the hazardous materials regulations as a Division 6.2 (Infectious substance) material.

Disclaimer

This section provides basic classification information and, where relevant, information with respect to specific modal regulations, environmental hazards and special precautions. Otherwise, it is presumed that the information is not available/not relevant

15. Regulatory information

US federal regulations In reference to Title VI of the Clean Air Act of 1990, this material does not contain nor was it manufactured using ozone-depleting chemicals.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpart D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US OSHA Hazard Categories (9)

Not regulated.

US OSHA Hazard Categories (10)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 hazard categories Immediate Hazard - No
Delayed Hazard - No

Fire Hazard - No

Pressure Hazard - No

Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

US state regulations

US. California Proposition 65

Not Listed.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

SDS Status

Origination date: April 1, 2021

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available.

Other information

- Guide to Occupational Exposure Values 2012, Compiled by the American Conference of Governmental Industrial Hygienists (ACGIH).
- NIOSH Pocket Guide to Chemical Hazards, U.S. Department of Health and Human Services, September 2005.
- expub, Expert Publishing, LLC., www.expub.com,
- Ariel, 3E Company, www.3Ecompany.com

Key/Legend:

ACGIH	American Conference of Governmental Industrial Hygienists
AICS	Australian Inventory of Chemical Substances
CAS	Chemical Abstract Services
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CPR	Cardio-pulmonary Resuscitation
DOT	Department of Transportation
DSL	Domestic Substances List (Canada)
EC	Effective Concentration
ED	Effective Dose
EINECS	European Inventory of Existing Commercial Chemical Substances
ENCS	Japan - Existing and New Chemical Substances
EWC	European Waste Catalogue
EPA	Environmental Protective Agency
IARC	International Agency for Research on Cancer
LC	Lethal Concentration
LD	Lethal Dose
MAK	Maximum Workplace Concentration (Germany) "maximale Arbeitsplatz-Konzentration"
NDSL	Non-Domestic Substances List (Canada)
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration
PIN	Product Identification Number
PMCC	Pensky Marten Closed Cup
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
SIMDUT	Système d'Information sur les Matières Dangereuses Utilisées au Travail
STEL	Short Term Exposure Limit
TCLP	Toxic Chemicals Leachate Program
TDG	Transportation of Dangerous Goods
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act TWA Time Weighted Average
WHMIS	Workplace Hazardous Materials Information System
m	meter,
cm	centimeter,
mm	millimeter,
in	inch,
g	gram,
kg	kilogram,
lb	pound,
µg	microgram,
ppm	parts per million,
ft	feet

*** End of SDS ***

Precautionary statement

Prevention

Wash thoroughly after handling.

Response

IF exposed or concerned: Get medical advice/attention.

Storage

Store in a well-ventilated place.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental information

Dusts and mists: Can cause irritation of the eyes, skin and upper respiratory tract. May contain fecal coliform bacteria.

Hydrogen sulfide can be generated through bacterial action under anaerobic (lack of oxygen) conditions. Can cause irritation of the respiratory tract. Acute overexposure: Can cause sore throat, shortness of breath, headache, confusion and loss of coordination. Oxygen deficiency may result when the material is stored in a confined or poorly ventilated space.

Detection of hydrogen sulfide by its odor may not be effective. Short-term high concentration exposure as well as chronic low concentration exposures can cause paralysis of the sense of smell (olfactory fatigue).

Non-combustible. Not an explosion hazard.

FIRE FIGHTING MEASURES:

Use fire fighting methods and materials that are appropriate for surrounding fire.

IN CASE OF SPILL:

Vacuum as much material as possible and dispose of in treatment plant. Ensure that no contamination is present in the sludge that will upset or be fatal to the biomass in the treatment plant. Absorb remainder with absorbent material. Absorb remainder with absorbent material. Containerize for disposal. Disinfect spill area with a mild bleach solution (sodium hypochlorite) with a contact time greater than 15 minutes.