Fact Sheet

For issuance of Underground Injection Control Permit Number NE0212139 to the Kugler Oil Company, to operate a Class I Non-Hazardous Waste Injection Well. This permit issuance does not involve discharges to the land surface or surface waters of the State of Nebraska.

Issuing Office: Nebraska Department of Environmental Quality (NDEQ)

Suite 400, The Atrium

1200 N Street

P.O. Box 98922

Lincoln, Nebraska 68509-8922

Applicant: Kugler Oil Company

PO Box 1748

McCook, NE 69001

1. Kugler Oil Company operates a facility (SIC #2873), whose specific operations involve manufacturing and distribution of liquid fertilizer products including ammonium thiosulfate, potassium thiosulfate, ammonium polyphosphate, liquid slow release nitrogen, and various blends of fertilizer mixes.
2. The Kugler Oil Company Class I Non-Hazardous Waste Injection Well will be located in the NW ¼ of the SW ¼ of Section 16, Township 3 North, Range 31 West, Hitchcock County, Nebraska.
3. The following is a table containing the composition of the injection stream as reported by the applicant. As described in the permit, there will be a one-time injection of wastewater from the evaporation pond at the facility. Following this, the other wastestreams will be combined and injected as needed.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table 1: Approximate Composition of Wastestreams** | | | | | |
| **Analyte** | **Storm Water** | **Evaporation Pond** | **KTS Treated** | **Brine** | **Cooling Tower** |
| Volume (gal/year, or amount from storage) | 356,000 | 356,141 (storage) | 518,400 + 220,000 (storage) | 1,554,900 | 5,256,000 |
| pH (S.U.) | 6.47 | 2.60 | 7.20 | 7.60 | 9.20 |
| Electrical Conductivity (mmhos/cm) |  | 40.54 | 309.94 | 2.14 | 2.14 |
| Total Dissolved Solids (mg/L) |  | 25946.00 |  | 1372.00 | 1370.00 |
| Nitrate plus Nitrite (mg/L) |  | 25.54 | 6.99 | 43.15 | 22.20 |
| Nitrate (mg/L) |  |  |  |  | 22.14 |
| Nitrite (mg/L) |  |  |  |  | <0.20 |
| TKN (mg/L) |  |  |  |  | 3.02 |
| Ammonium (mg/L) |  |  |  |  | 0.01 |
| Nitrogen (mg/L) | 600.00 |  |  |  |  |
| Phosphorus P2O5 (mg/L) | 800.00 | 13.58 | 0.64 | 3.42 |  |
| Potassium K2O (mg/L) | 300.00 | 4160.00 | 2341.00 | 38.00 |  |
| Sulfer, total (mg/L) | <100.00 | 4074.50 | 64851.30 | 74.50 |  |
| Zinc, total (mg/L) | <100.00 |  |  |  |  |
| Specific Gravity (g/cc) | 0.9972 |  |  |  |  |
| Weight (lbs/gallon) | 8.31 |  |  |  |  |
| Carbonate (mg/L) |  | <1.00 | <1.00 | <1.00 |  |
| Bicarbonate (mg/L) |  | <1.00 | 1087.00 | 473.00 |  |
| Alkalinity as CaCO3 (mg/L) |  | <1.00 | 891.00 | 388.00 |  |
| Calcium (mg/L) |  | 275.00 | 7.00 | 75.00 |  |
| Magnesium (mg/L) |  | 89.00 | 2.00 | 26.00 |  |
| Sodium (mg/L) |  | 3946.00 | 199.00 | 242.00 |  |
| Chloride (mg/L) |  | 4620.00 | 693.00 | 104.00 |  |
| Iron (mg/L) |  | 6.24 | 0.17 | 0.04 |  |
| Manganese (mg/L) |  | 4.53 | 0.01 | 0.03 |  |
| Zinc (mg/L) |  | 9.06 | 0.07 | <0.01 |  |
| Copper (mg/L) |  | 0.01 | <0.01 | <0.01 |  |
| Boron (mg/L) |  | 0.95 | 0.11 | 0.40 |  |
| Hardness as CaCO3 (grains/gallon) |  | 61.51 | 1.50 | 17.20 |  |
| Abbreviations: gal/year – gallons per year; mmhos/cm – millimhos per centimeter; mg/L – milligrams per liter; g/cc – grams per cubic centimeter; lbs/gallon – pounds per gallon; grains/gallon – grains per gallon; S.U. – standard units | | | | | |

1. On the basis of preliminary staff review, the NDEQ has made a tentative determination to reissue permit number NE0212139.
2. The following is a brief explanation of the statutory and regulatory provisions on which the proposed permit issuance is based.
   1. Permit Application for a Class I Non-Hazardous Waste Injection Well and $25,000.00 filing fee, received by NDEQ on March 27, 2018.
   2. Nebraska Environmental Protection Act and related laws.
   3. NDEQ Title 122 - Rules and Regulations for Underground Injection and Mineral Production Wells.
   4. 40 CFR Parts 144-147, Underground Injection Control Program, State UIC Program Requirements, UIC program: Criteria and Standards, State Underground Injection Control Programs.
3. The following is an explanation of the calculations and derivations of the specific Operational Parameters and Limitations set forth in the draft permit, and the reasons why they are applicable to the injection proposal:
   1. Reason for the Permit: The draft permit has been prepared in accordance with specific regulations contained within Nebraska Title 122 – Rules and Regulations for Underground Injection and Mineral Production Wells.
   2. Water Quality Considerations: The proposed injection activity will not, by definition, emplace treated water into subsurface aquifers, which are considered to be Underground Sources of Drinking Water (USDW) under State and Federal regulations. Drinking Water Quality effluent limitations, therefore, do not apply to the proposed discharge.
   3. Draft Permit Effluent Limitations and Considerations: The draft permit establishes Operational Parameters and Limitations for treated water discharged to the injection well system. The draft permit utilizes effluent parameters and limitations to characterize the water discharged to the injection well.
      1. Injection Pressure, Injection Volume, Injection Rate, and Minimum Allowable Operating Annulus Pressure

The draft permit requires continuous recording devices or gauges to be utilized to measure injection pressure, volume and rates, as well as the Minimum Allowable Operating Annulus Pressure of the injection well system. These operational limitations are based on the knowledge of the construction of the well and the injection aquifer.

* + 1. pH and Temperature

The draft permit establishes a pH range for the effluent limitation of 5.0-9.5. This limitation is based on the knowledge of the treatment process. Temperature will be used in conjunction with the annulus pressure to ensure proper fluid levels in the annulus between the injection tubing and the long string casing.

* + 1. Calcium, Sodium, Nitrate, Bicarbonate, Sulfate, Chloride, Ammonium, Vanadium, and Total Dissolved Solids

There are no limitations for calcium in the draft permit. The draft permit establishes limitations for sodium, nitrate, bicarbonate, sulfate, and chloride. The limitations are to establish the character of the wastewater discharged to the injection well.

* + 1. Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, and Silver

The draft permit establishes limitations for arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver. These limitations are based on Title 128, Rules and Regulations Governing Hazardous Waste Management in Nebraska, Chapter 3.

1. Variances

The applicant has not requested any variance or alternatives to any required standards or operational parameters.

1. Written Comments

Copies of public information pertaining to this issue (Permit Issuance) are available for review and copying at the Department’s office, Suite 400, The Atrium, 1200 N Street, Lincoln, Nebraska 68508 between 8:00 a.m. and 5:00 p.m., weekdays.

The public may comment upon or object to the proposed draft permit, in writing, prior to January 12, 2019. All substantive comments and/or objections shall be considered prior to making the final decision regarding this surety release. Any interested person may request a public hearing, if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised at the hearing.

All comments may be sent to Marty Link, Nebraska Department of Environmental Quality, P.O. Box 98922, Lincoln, Nebraska 68509-8922. Further requests for information should be sent to Amanda Jones, Department of Environmental Quality, P.O. Box 98922, Lincoln, Nebraska 68509-8922, (402) 471-4290.