September 3, 2025

FACT SHEET

The U.S. Environmental Protection Agency (EPA) is proposing to approve reissuance of an exemption to the land disposal restrictions for the following injection well facility:

Applicant:	Sasol Chemicals (USA), LLC 1914 Haden Road Houston, Texas 77015
Facility Location:	Greens Bayou Plant 1914 Haden Road Houston, Texas 77015
Wells:	WDW-147 WDW-319
Issuing Office:	U.S. Environmental Protection Agency Region 6 (6WQ-SG) Renaissance Tower 1201 Elm Street Dallas, Texas 75270-2733

Summary of Decisional Basis

The Environmental Protection Agency (EPA) land disposal restrictions promulgated under Section 3004 of the Resource Conservation and Recovery Act ("RCRA") prohibit the injection of restricted hazardous waste unless a petitioner demonstrates to the EPA that there will be no migration of hazardous constituents from the injection zone for as long as the waste remains hazardous. These no migration demonstrations must meet the regulatory standards promulgated in Title 40 of the Code of Federal Regulations, Part 148, Subpart C (40 C.F.R. Section 148, Subpart C). The demonstration includes a description of the well operations, geologic siting, and waste stream characteristics. The demonstration also includes modeling strategies which incorporate all the previously mentioned information and utilize mathematical equations to predict pressure buildup and waste movement. A method of land disposal may not be determined to be protective, "unless, upon application by an interested person, it has been demonstrated to the Administrator, to a reasonable degree of certainty, that there will be no migration of hazardous constituents from the disposal unit or injection zone for as long as the wastes remain hazardous" (42 U.S.C. Section 6924(g)(5)). Under the Hazardous Waste Disposal

Injection Restrictions (HWDIR) regulations promulgated by the EPA, 40 C.F.R. Section 148, 53 Fed. Reg. 28118 (July 26, 1988), the continued injection of any waste identified as a "hazardous waste" under the EPA's RCRA regulations would be prohibited unless the EPA approves a petition demonstrating, to a reasonable degree of certainty, that continued waste injection will be protective of human health and the environment for as long as the waste remains hazardous.

Section 148.20(a)(1)(i) of the regulations provides that such a demonstration may be made on the basis of a scientific analysis showing that the injected fluids will not migrate vertically upward out of the injection zone or laterally within the injection zone to a point of discharge or interface with an Underground Source of Drinking Water (USDW) within 10,000 years. The demonstration includes a description of the well operations, geologic siting, and waste stream characteristics. The demonstration also includes modeling strategies which incorporate all the previously mentioned information and utilize mathematical equations to predict pressure buildup and waste movement.

Merichem Company successfully demonstrated no migration for its Class I hazardous waste injection well, WDW-147, at the Greens Bayou plant located in Houston, TX, and received a petition issuance on December 2, 1994. In 1997, Merichem Company and Sasol formed a joint venture, and the name of the company changed to Merichem-Sasol USA, LLC. On August 16, 2000, the EPA officially recognized the company name change from Merichem-Sasol USA, LLC to Merisol USA, LLC. A petition reissuance was granted by the EPA on December 27, 2000, following a request from the company to commence injecting into WDW-319 and cease injection into well WDW-147. The cessation date was December 31, 2010. In 2003, EPA Region 6 UIC sent a letter to Merisol approving their specific gravity variance request and updating petition approval condition No. 4 from the 2000 reissuance. EPA Region 6 approved another reissuance on June 28, 2006, granting approval to continue injection in well WDW-319 and recommence injecting into well WDW-147. In 2014, the EPA sent out a letter to the company which recognized the name change from Merisol USA, LLC, to Sasol Chemicals (USA), LLC. This reissuance extended the cessation date to December 31, 2020. On October 18, 2023, EPA Region 6 sent a letter to Sasol Chemicals (USA), LLC, approving their use of Class I hazardous injection well WDW-319 pending completion of the scheduled workover with a successful mechanical integrity test (MIT). In February 2024, Sasol plugged the Frio A, B, and C sands injection interval in WDW-319 due to borehole collapse in that interval. Sasol recompleted WDW-319 into the Frio E&F Sands and is currently only injecting into the Frio E&F Sands in WDW-147 and WDW-319.

Sasol Chemicals (USA), LLC (Greens Bayou Plant) submitted a petition reissuance requesting one

revision to the currently approved 2006 reissuance: an extension of the operational life of the facility to December 31, 2050. The following explains the derivation of the proposed decision, categorized according to the criteria outlined in 40 C.F.R. Part 148 [53 Fed. Reg., 28118 (7/26/88)].

The Sasol petition reissuance described the operation of its wells through a discussion of well construction, injection pressures, and injection volumes for both injection wells. The site location and geologic conditions were presented through a discussion of the depositional environments, well logs, cross-sections, well tests, geologic maps, and well records. The characteristics of the waste stream were described and evaluated for compatibility with the injection and confining zones. Sasol incorporated all this information into a modeling strategy which predicted the pressure buildup and waste movement for the Greens Bayou site. The waste plume was predicted to move up-gradient approximately 25,000 feet and reside in the Clinton Dome in 10,000 years. Maximum vertical waste movement contained within the injection zone is approximately 545 feet in a mud-filled borehole and 340 feet within the 800 feet of shale above the Frio E&F Sand injection interval.

In addition to the reasonably conservative data and assumptions used in the no migration petition reissuance, the demonstration is even more conservative as it excludes degradation of the hazardous constituents in the injection zone. Examples of degradation which were not considered in the no migration demonstration are adsorption, oxidation, hydrolysis, temperature, and microbiological degradation. Therefore, after a detailed and thorough review of Sasol's petition for reissuance of the exemption, the EPA proposes that Sasol has demonstrated, to a reasonable degree of certainty, that there will be no migration of hazardous constituents from the injection zone for as long as the waste remains hazardous (or 10,000 years, as defined by 40 C.F.R. Section 148.20). Sasol also submitted a signed certification statement on August 21, 2025, from an authorized representative verifying that all submitted materials are true, accurate, and complete, pursuant to 40 C.F.R. Section 148.22(a)(4).

The factors considered in the formulation of this proposed petition decision are described below.

Regional and Local Geology

Class I hazardous waste injection wells must be located in areas that are geologically suitable. The injection zone must have sufficient permeability, porosity, thickness, and areal extent to prevent migration of fluids into USDWs. The confining zone must be laterally continuous and free of transmissive faults or fractures to prevent the movement of fluids into a USDW and

must contain at least one formation capable of preventing vertical propagation of fractures. The Sasol facility is sited in an area meeting these geologic criteria.

An evaluation of the structural and stratigraphic geology of the local and regional area determined that the Sasol facility is located at a geologically suitable site. The injection zone is of sufficient permeability, porosity, thickness, and areal extent to meet requirements of 40 C.F.R. Part 148. The containment interval which is the portion of the injection zone above the top of the injection interval is laterally continuous and free of transecting, transmissive faults or fractures over an area sufficient to prevent the movement of fluids out of the injection zone.

The geologic conditions for the Sasol site were presented throughout the entire document with extensive discussions of the depositional environments, well logs, cross-sections, well tests, and geologic maps. The geologic cross-sections demonstrated the lateral relationships of the injection and confining zones. This information justified pressure buildup and 10,000-year modeling assumptions. Pressure falloff tests at WDW-147 and WDW-319 and from offset injection wells support the injection zone permeability values used in the modeling. Approximate depths to the tops of the geologic zones are as follows:

Geologic Zone		**WDW-147 (feet)**	**WDW-319 (feet)**
Confining Zone		4760 – 5135	4758 – 5134
Injection Zone		5135 – 7410	5134 – 7410
Injection Interval:	Frio E&F Sands	6564 – 6816	6580 – 6821
	Frio A&B Sands	6826 – 6980	6830 – 6984
	Frio C Sand	7097 – 7286	7100 – 7290
Total Depth of Well		7336	7408

(WDW-147 depths referenced to 8/27/1978 ISF/Sonic Open hole log using KB depths in feet; WDW-319 depths referenced to 8/31/2000 Induction geophysical open hole log using KB depths in feet; and Injection Zone bases are below the total depths of each corresponding well).

Hydrogeology

A petitioner must submit hydrogeologic information in order to study the effects of the injection well activity, 40 C.F.R. Section 148.20(a). Sasol provided hydrogeologic information in the petition which demonstrates that Underground Sources of Drinking Water (USDW) are properly protected. The base of the lowermost USDW is at approximately 3,110 feet KB depth

in WDW-147 and 3,115 feet KB depth in WDW-319 at the facility.

Modeling Strategy

Site geology and other associated details have changed little since the 2006 reissuance, and the 2006 fact sheet summarizing area geologic detail is attached. The site is operated by Sasol Chemicals (USA), LLC (formerly Merisol (USA) LLC), as was previously stated in the referenced 2006 fact sheet. Revised reissuance condition requests coupled with an additional 33 years of injection rate history, monitoring data, and annual testing results resulted in updated pressure buildup and long-term plume models being run for each of the three injection intervals. Sasol ran the EPA verified and validated DuPont model, a flow and containment model, to characterize the extent of their injected waste plume and the associated pressure buildup.

The maximum requested injection rate of 750 gpm for each injection interval was used from December 31, 2017, through December 31, 2050, to project the maximum pressure buildup. The pressure buildup demonstration for the individual layers for the Frio A/B/C and Frio E&F Sands over-predicted reservoir pressures compared to historical static and flowing pressure measurements obtained from falloff tests conducted in WDW-147 for the Frio E&F Sand and WDW-319 for the Frio A/B/C Sand.

In demonstrating no migration of hazardous waste, predictive models must be validated, and be appropriate for the specific site, waste streams, and injection operating conditions, and must be calibrated when sufficient data are available, 40 C.F.R. Section 148.21(a)(3). The modeling strategy for Sasol's no migration demonstration consisted of a combination of numerical and analytical models. This information consisted of actual model documentation or references of methods or techniques that are widely accepted by the technical community. The petition reissuance document described the predictive models used and demonstrated the above criteria are met.

Whenever values taken from the literature or estimated on the basis of known information are used instead of site-specific measurements, reasonably conservative values must be used, 40 C.F.R. Section 148.21(a)(5). Many variables were required to be quantified in order to use the models used in the petition for reissuance request. All parameters were conservatively assigned to produce worst case conditions for pressure buildup and waste movement.

Additionally, 40 C.F.R. Section 148.21(a)(6) requires a petitioner to perform a sensitivity analysis to determine the effect of uncertainties associated with model parameters. Sasol provided this sensitivity analysis in its petition for reissuance request. Through conservative model parameter assignments within this analysis, worst case scenarios for pressure buildup and waste

movement were investigated and reported.

Sasol incorporated two timeframes, the operational and post-operational periods, to complete the modeling demonstration for the petition reissuance request. The operational period included all historical injection data from start of injection until year end 2017 and the maximum future injection volumes starting from the end of historical injection through December 31, 2050, to predict the maximum pressure buildup in each injection interval. The 10,000-year post injection period was modeled to predict the maximum vertical molecular diffusion and the horizontal drift of the waste plumes.

To determine appropriate values to be used in the no migration demonstration, Sasol reviewed site specific data acquired during the drilling of WDW-147 and WDW-319, annual well testing, and mechanical integrity tests. Sasol also reviewed offset well information and applicable literature. Appropriate estimation techniques and testing protocols were used in accordance with 40 C.F.R. Section 148.21(a)(2). A range was assigned to some parameters to maximize their impact on the demonstration. For example, higher permeabilities were assigned to maximize the lateral waste plume movement while lower permeabilities were assigned to maximize the predicted pressure buildup from injection operations in Frio Sands E&F, A/B, and C within the injection intervals. Nearby offset Class I and II injection wells were considered in the pressure buildup demonstration.

Area faulting was also considered in the pressure buildup modeling. Modeled boundary conditions that may result in potential barriers to fluid flow within or near the 2.5-mile radius Area of Review (AOR) include the Renee-Lynchburg Field faults, located east and southeast of the Greens Bayou Plant, which is on the margin of the AOR. Offsets for the Renee-Lynchburg faults range from 20 to 280 feet, with some of the larger displacement faults being capable of completely offsetting the injection interval sands. Another boundary condition is the Clinton Dome structure located approximately 5 miles northwest of the facility. Lastly, potential flow restrictions due to stratigraphy have also been considered in the modeling, notably the Frio B Sand thins moving westward and is absent across portions of the Clinton Dome. Two model simulations were run. Case 1 maximized westward flow by treating the Renee-Lynchburg faults as sealing no flow boundary and considers all injection into the Frio A/B/C and Frio E&F Sands by all facilities except for those separated by the Renee-Lynchburg and ignoring the Clinton Dome. Case 2 maximized eastward flow by modeled the Renee-Lynchburg faults as a laterally transmissive and including the Clinton Dome as a sealing boundary. The composite of these cases was used to conservatively construct the AOR. Artificial penetrations within the AOR are considered during the modeling of both Case 1 and Case 2 scenarios. For the Frio A/B/C Sand, WDW-319 was used as the modeled injection well, while for the Frio E&F Sand, WDW-147 was

used as the modeled injector.

The pressure buildup demonstration used lower transmissibility values to over-predict well pressures in comparison to historical static and flowing pressure measurements obtained from falloff tests conducted in WDW-147 and WDW-319. The maximum future injection rates were then injected following the historical injection to maximize the predicted pressure buildup in the reservoir.

For Case 1, maximum pressure buildup at WDW-319 does not exceed 495.2 psi within the Frio A/B/C Sand and does not exceed 283.5 psi at WDW-147 within the Frio E&F Sand. For Case 2, maximum pressure buildup at WDW-319 does not exceed 422.3 psi within the Frio A/B/C Sand and does not exceed 234.1 psi at WDW-147 within the Frio E&F Sand.

The Area of Review (AOR) is defined as a fixed radius surrounding the injection well(s) and Zone of Endangering Influence (ZEI). 40 C.F.R. Section 146.6. The AOR for Class I hazardous waste wells must be a minimum of a 2.0-mile radius around the well bore. 40 C.F.R. Section 146.63. Sasol submitted information on all artificial penetrations within a composite 2.5-mile radius around both the injection wells. The ZEI is the area in which the pressures in the injection zone may cause the migration of the injection and/or formation fluid into an underground source of drinking water as per 40 C.F.R. Section 146.6(a)(1)(ii). The threshold pressure increase for is 361.8 psi for Frio A/B/C Sands and 365.1 psi for Frio E&F Sands. The ZEI for both cases and injection intervals are contained within the 2.5-mile AOR.

The Flow and Containment models for Sasol Chemicals, LLC's Greens Bayou Plant conservatively modeled waste fluid injections into the subsurface under certain modified conditions. Geologic parameters were validated by over-matching model pressure predictions, flowing downhole pressures, and formation shut-in pressures in the injection intervals. Modeling results through the end of 2050, using maximum projected injection rates, results in the maximum horizontal extent of the waste in the Frio A/B/C Sand. The operational plume exceeds the 2.5-mile minimum Area of Review in the northeast and east direction. The model predicts no vertical permeation of fluids out of the Frio and Vicksburg formation. The observed maximum vertical permeation into the aquiclude above the Frio E&F Sand will not exceed 15.6 feet.

A conservative 10,000-year plume demonstration was constructed using worst-case reservoir characteristics for each injection interval to project the maximum movement of both the low- and high-density waste plumes. To maximize plume movement, these demonstrations included thinner net thickness, conservative dip rates, all historical and maximum future injection volumes, and higher mobilities based on historical pressure transient test results from WDW-

147, WDW-319, and area injection wells. The low-density plume used the low end of the requested density range and did not include a background gradient to maximize the updip plume movement. The higher density waste stream was modeled using a 1.62 ft/year background gradient to maximize the downdip movement of the waste plume for Frio E&F and A/B Sands. The composite of these plume extents was used to conservatively construct the AOR. Additionally, a limiting concentration reduction factor was set to 1×10^{-12} for the constituents of concern, encompassing the requested EPA hazardous waste numbers included in this reissuance and lower formation fluid viscosity to maximize plume movement.

A vertical diffusion demonstration was included in this petition for reissuance request that calculated the maximum vertical movement into intact strata and a mud-filled wellbore. The demonstrations (lateral plume and diffusion) demonstrated that the injected waste stream for each interval will not migrate vertically upward out of the injection zone or laterally within the injection zones to a point of discharge or interface with a USDW for the required 10,000-year demonstration period.

The pressure buildup due to injection will decrease ceasing injection demonstrating that there will no longer be a Cone of Influence within one year of well closure. As pressure decreases within the formation, vertical permeation will decrease, resulting in the residual vertical permeation value in the aquiclude layer above the Frio E&F Sand not exceeding 5.94 feet. The total vertical extent of the most mobile constituent within the waste will not exceed 340 feet of the 800 feet of shale overlying the Frio E&F Sand. Over a 200-year evaluation period, the High Specific Gravity Plume drift will extend approximately 6,850 feet down-dip of the operational plume perimeter. The Low Specific Gravity Plume drift will be contained across the crest of the Clinton Dome to the northwest of the site over the 10,000-year regulatory evaluation period.

Artificial Penetrations

Sasol submitted updated information on all 283 artificial penetrations (wells) which either penetrated the injection or confining zones within the 2.5-mile area of review or the 10,000-year waste plume boundary. All of these wells were evaluated and are plugged or constructed so that no waste would migrate from the injection zone due to pressure, buoyancy, or molecular diffusion in an artificial penetration. *See* 40 C.F.R. Sections 148.20(a)(1) & (2)(i)-(iii).

Mechanical Integrity Testing Information

To assure that the wastes will reach the injection interval, a petitioner must submit the results of pressure and radioactive tracer tests. 40 C.F.R. Section 148.20(a)(2)(iv). These tests demonstrate mechanical integrity of a well's long string casing, injection tubing, annular seal, and bottom hole cement. The tests confirm that all injected fluids are entering the approved injection interval and that no fluids are channeling up the wellbore out of the injection zone near the wellbore. This petition for reissuance request demonstrates that Sasol's disposal wells were tested and satisfy the above criteria:

Well	WDW-147	WDW-319
Annulus Pressure Test	11/4/2024	11/8/2024
Radioactive Tracer Survey	11/6/2024	11/8/2024
Pressure Fall-off Test	11/5/2024	11/7/2024
Differential Temperature Survey	*12/5/2022	*12/7/2020

* The Differential Temperature Survey is a five-year testing requirement, *see* 40 C.F.R. Section 146.68(d)(3), whereas the Annulus Pressure Test, Radioactive Tracer Survey, and Pressure Fall-off Test are required annually, *see* 40 C.F.R. Section 148.20(a)(2)(iv) and 40 C.F.R. Section 146.68(e)(1).

Quality Assurance

The Sasol petition must demonstrate that proper quality assurance and quality control plans were followed in preparing the petition demonstrations, as required by 40 C.F.R. Section 148.21(a)(4). Specifically, Sasol followed appropriate protocol in identifying and locating records for artificial penetrations within the area of review (AOR). Information regarding the geology, waste characterization (40 C.F.R. Section 148.21(a)(1)), hydrogeology, reservoir modeling, and well construction was adequately verified or bounded by worst-case scenarios within the no migration petition reissuance demonstration.

Geochemistry and Injected Waste Compatibility

A petitioner must describe the geochemical conditions of the well site, 40 C.F.R. Section 148.21(b)(5). The physical and chemical characteristics of the injection zone and the formation fluids in the injection zone were described in the petition. This description included a discussion of the compatibility of the injected waste with the injection zone. Sasol also provided evaluations which demonstrated that the waste stream would not adversely alter the confining capabilities of the injection and confining zones.

Characteristics of Injected Fluids

Characteristics of the injection waste stream must be adequately described, 40 C.F.R. Section 148.22(a). These characteristics are described in the petition reissuance, and the descriptions are adequate and complete. The demonstration included injectate waste analysis that conformed to the standards outlined in 40 C.F.R. Section 148.21(a)(1).

1. Operational Life:
End of Operational Life: December 31, 2050

Modeled Well Location	Injection Interval	Maximum Incremental Pressure Buildup (psi)
WDW-147[1]	Frio E&F Sand	283.5 psi
WDW-147[2]	Frio E&F Sand	234.1 psi
WDW-319[1]	Frio A/B/C Sand	495.2 psi
WDW-319[2]	Frio A/B/C Sand	422.3 psi
WDW-319[1]	Frio E&F Sand	283.9 psi
WDW-319[2]	Frio E&F Sand	234.5 psi

([1]Case 1 – Sealed Fault Case)
([2]Case 2 – Open Fault Case)

2. 10,000 Year Post-Injection Period:
Background gradient: 0 ft/yr updip and 1.62 ft/yr downdip
Waste density effects considered? Yes
Hydrocarbon production in the injection interval present to impact demonstration? No
Waste concentration reduction factor: $1x10^{-12}$
Maximum lateral waste movement:
Light plume: Approximately 26,000 feet (4.92 miles) updip in a northwest direction from the Greens Bayou Plant
Heavy plume: Approximately 16,000 feet (3.03 miles) downdip in a southwest direction from the Greens Bayou Plant
Maximum vertical waste movement: Approximately 340 feet through intact strata and 545 feet[1] in a mud-filled borehole.

([1]Vertical diffusion distance through 9.0-lb/gal mud* for Benzene)
(*Includes uncertainty of 5% due to 10% uncertainty in the free water diffusion coefficient.)

Proposed Petition Reissuance Approval Conditions

This proposed approval of a petition for reissuance of an exemption to allow the injection of restricted hazardous wastes is subject to the following conditions, which are necessary to assure that the standard in 40 C.F.R. Section 148.20(a) is met. Noncompliance with any of these conditions is grounds for termination of the exemption, *see* 40 C.F.R. Section 148.24(a)(1). This proposed exemption applies to the Sasol Greens Bayou Plant injection wells: WDW-147 and WDW-319, located at its Greens Bayou, Texas facility.

1. Injection of restricted waste shall be limited to the following injection zone:

Well	Depth of Injection Zone (Feet)
WDW-147	5135 - 7410[1]
WDW-319	5134 – 7410[2]

([1]WDW-147 Injection Zone depths are referenced to Kelly Bushing (KB) depths (16' above ground level) on WDW-147's ISF/Sonic Open hole log dated August 27, 1978)
([2]WDW-319 Injection Zone depths are referenced to Kelly Bushing (KB) depths (19.5' above ground level) on WDW-319's Induction-SFL/Compensated Neutron-Formation Density Sonic Open hole log dated August 31, 2000)

The injection intervals shall be defined by the following correlative log depths:

Well	Injection Interval	Depth of Injection Interval (Feet)
WDW-147	Frio E&F Sand	6,564 – 6,816[1]
	Frio A&B Sand	6,826 – 6,980[1]
	Frio C Sand	7,097 – 7,286[1]
WDW-319	Frio E&F Sand	6,580 – 6,821[2]
	Frio A&B Sand	6,830 – 6,984[2]
	Frio C Sand	7,100 – 7,290[2]

([1]WDW-147 Injection Interval depths are referenced to Kelly Bushing (KB) depths (16' above ground level) on WDW-147's ISF/Sonic Open hole log dated August 27, 1978)

([2]WDW-319 Injection Interval depths are referenced to Kelly Bushing (KB) depths (19.5' above ground level) on WDW-319's Induction-SFL/Compensated Neutron-Formation Density Sonic Open hole log dated August 31, 2000)

2. For WDW-147 and WDW-319, the combined cumulative monthly volume injected into each of the injection intervals shall not exceed that calculated as follows:

Frio E&F Sand: (750, gpm)(1440 minutes/day)(number of days in that month)
Frio A/B/C Sand: (750, gpm)(1440 minutes/day)(number of days in that month)
Additionally, the cumulative injection volume of waste with a volume weighted monthly average specific gravity less than 1.091 at 20 °C/20 °C is limited to 3.945 billion gallons total injected since January 1, 2006. This volume will be tracked by Sasol and reported annually to EPA Region 6.

3. The facility shall cease injection into WDW-147 and WDW-319 by December 31, 2050.

4. The characteristics of the injected waste stream for WDW-147 and WDW-319 shall at all times, conform to those discussed in Section 6 of the 2019 Petition Reissuance document for WDW-147 and WDW-319. The specific gravity of the waste stream injected into each interval shall remain within the running volume-weighted three-whole calendar month range of 1.000 to 1.200 at 20°C /20°C (68°F).

The running three-whole calendar month average shall be calculated on a combined well basis by multiplying each day's specific gravity/density value by that day's injected volume, totaling those values for the previous whole three-month period, and dividing by that three whole-month injected volume. For the above calculation, each day's specific gravity value shall be obtained by at least one representative grab sample from the common waste stream distribution line to both wells.

5. The approval for injection is limited to the following hazardous waste codes:

D Codes	D001 D002 D003 D004 D005 D006 D007 D008 D009 D010 D011 D012 D013 D014 D015 D016 D017 D018 D019 D020 D021 D022 D023 D024 D025 D026 D027 D028 D029 D030 D031 D032 D033 D034 D035 D036 D037 D038 D039 D040 D041 D042 D043
F Codes	F001 F002 F003 F004 F005 F006 F007 F008 F009 F010 F011 F012 F019 F020 F021 F022 F023 F024 F025 F026 F027 F028 F032 F034 F035 F037 F038 F039

K Codes	K001 K002 K003 K004 K005 K006 K007 K008 K009 K010 K011 K013 K014 K015 K016 K017 K018 K019 K020 K021 K022 K023 K024 K025 K026 K027 K028 K029 K030 K031 K032 K033 K034 K035 K036 K037 K038 K039 K040 K041 K042 K043 K044 K045 K046 K047 K048 K049 K050 K051 K052 K060 K061 K062 K069 K071 K073 K083 K084 K085 K086 K087 K088 K093 K094 K095 K096 K097 K098 K099 K100 K101 K102 K103 K104 K105 K106 K107 K108 K109 K110 K111 K112 K113 K114 K115 K116 K117 K118 K123 K124 K125 K126 K131 K132 K136 K141 K142 K143 K144 K145 K147 K148 K149 K150 K151 K156 K157 K158 K159 K161 K169 K170 K171 K172 K174 K175 K176 K177 K178 K181
P Codes	P001 P002 P003 P004 P005 P006 P007 P008 P009 P010 P011 P012 P013 P014 P015 P016 P017 P018 P020 P021 P022 P023 P024 P026 P027 P028 P029 P030 P031 P033 P034 P036 P037 P038 P039 P040 P041 P042 P043 P044 P045 P046 P047 P048 P049 P050 P051 P054 P056 P057 P058 P059 P060 P062 P063 P064 P065 P066 P067 P068 P069 P070 P071 P072 P073 P074 P075 P076 P077 P078 P081 P082 P084 P085 P087 P088 P089 P092 P093 P094 P095 P096 P097 P098 P099 P101 P102 P103 P104 P105 P106 P108 P109 P110 P111 P112 P113 P114 P115 P116 P118 P119 P120 P121 P122 P123 P127 P128 P185 P188 P189 P190 P191 P192 P194 P196 P197 P198 P199 P201 P202 P203 P204 P205
U Codes	U001 U002 U003 U004 U005 U006 U007 U008 U009 U010 U011 U012 U014 U015 U016 U017 U018 U019 U020 U021 U022 U023 U024 U025 U026 U027 U028 U029 U030 U031 U032 U033 U034 U035 U036 U037 U038 U039 U041 U042 U043 U044 U045 U046 U047 U048 U049 U050 U051 U052 U053 U055 U056 U057 U058 U059 U060 U061 U062 U063 U064 U066 U067 U068 U069 U070 U071 U072 U073 U074 U075 U076 U077 U078 U079 U080 U081 U082 U083 U084 U085 U086 U087 U088 U089 U090 U091 U092 U093 U094 U095 U096 U097 U098 U099 U101 U102 U103 U105 U106 U107 U108 U109 U110 U111 U112 U113 U114 U115 U116 U117 U118 U119 U120 U121 U122 U123 U124 U125 U126 U127 U128 U129 U130 U131 U132 U133 U134 U135 U136 U137 U138 U140 U141 U142 U143 U144 U145 U146 U147 U148 U149 U150 U151 U152 U153 U154 U155 U156 U157 U158 U159 U160 U161 U162 U163 U164 U165 U166 U167 U168 U169, U170 U171 U172 U173 U174 U176 U177 U178 U179 U180 U181 U182 U183 U184 U185 U186 U187 U188 U189 U190 U191 U192 U193 U194 U196 U197 U200 U201 U203 U204 U205 U206 U207 U208 U209 U210 U211 U213 U214 U215 U216 U217

	U218 U219 U220 U221 U222 U223 U225 U226 U227 U228 U234 U235 U236 U237 U238 U239 U240 U243 U244 U246 U247 U248 U249 U271 U278 U279 U280 U328 U353 U359 U364 U367 U372 U373 U387 U389 U394 U395 U404 U409 U410 U411

The above waste codes are based on the Health Based Limits Table.

6. The facility must petition for approval to inject additional hazardous wastes not included in Condition No. 5, above. The facility must also petition for approval to increase the concentration of any waste which would necessitate the recalculation of the limiting concentration reduction factor and the extent of the waste plume. Petition reissuances and modifications should be made in accordance with 40 C.F.R. Section 148.20(e) or (f).

7. Sasol Greens Bayou Plant shall annually submit to the EPA the results of a bottom hole pressure survey for WDW-147 and WDW-319. These surveys shall be performed after shutting in each well for a period of time sufficient to allow the pressure in the injection interval to reach equilibrium, as per 40 C.F.R. Section 146.68(e)(1). The annual report should include a comparison of reservoir parameters determined from the falloff test with parameters used in the approved no migration petition. The information should consist of a comparison of the current year's test results for the static and flowing bottomhole pressures with the values demonstrated in the approved petition reissuance and a comparison of the test results for transmissibility [Kh/μ (mD-ft/cP)] with the transmissibilities used in the approved petition reissuance demonstration for both the pressure buildup and the 10,000-year plume modeling.

8. Sasol Greens Bayou Plant shall also annually submit to the EPA a radioactive tracer survey, annulus pressure test, and waste sample analysis for WDW-147 and WDW-319 according to 40 C.F.R. Section 148.20(a)(2)(iv). Additionally, Sasol must submit an approved temperature and/or noise log at least once every five years in accordance with 40 C.F.R. Section 146.68(d)(3). The Director may also require casing inspection logs be run by Sasol in the event that either WDW-147 and/or WDW-319 undergoes well workover in which the injection string is pulled as per 40 C.F.R. Section 146.68(d)(4). As per 40 C.F.R. Section 146.68(d)(5) any other test approved by the Director in accordance with the procedures in 40 C.F.R. Section 146.8(d) may also be used.

9. Sasol Greens Bayou Plant shall notify the EPA if WDW-147 or WDW-319 loses mechanical integrity prior to any well work on WDW-147 or WDW-319 or Sasol Greens Bayou Plant plans to plug WDW-147 or WDW-319. If any well work or plugging is being planned, Sasol Greens Bayou Plant shall also submit the procedures to the EPA for review before commencing any work. As per 40 Section C.F.R. Section 146.67(h)(3) the owner/operator of the well(s) shall Notify the

Director, electronically, within 24 hours after loss of mechanical integrity is discovered. Failure of the owner/operator to notify the EPA within 24 hours of loss of mechanical integrity could result in a potential violation from the EPA Enforcement and Compliance Assurance Division.

10. Upon the expiration, cancellation, reissuance, or modification of the Texas Commission on Environmental Quality's Underground Injection Control permits for WDW-147 and WDW-319, this exemption is subject to review. A new demonstration may be required if information shows that the basis for granting the exemption is no longer valid under 40 C.F.R. Sections 148.23 and 148.24.

In addition to the above conditions, this proposed approval of a petition for reissuance of an exemption is contingent on the validity of the information submitted in the Sasol Chemicals (USA), LLC petition reissuance request for an exemption to the land disposal restrictions. Any final reissuance decision is subject to termination when any of the conditions occur which are listed in 40 C.F.R. Section 148.24, including noncompliance, misrepresentation of relevant facts, or a determination that new information shows that the basis for approval is no longer valid.