

Fact Sheet

**Draft Permit for the Treatment of Hazardous Waste
Emerald Kalama Chemical, LLC
Kalama, WA 98625
EPA Permit No. WAD 09289 9574**

This Fact Sheet has been prepared by the Washington Department of Ecology (Ecology) and the United States Environmental Protection Agency, Region 10 (EPA) in accordance with the requirements of WAC 173-303-840(2)(f) and 40 CFR § 124.8. This Fact Sheet provides information on: the current status of the facility, the facility background, the facility's current hazardous waste management activities, and the public comment period associated with the draft Hazardous Waste Management Permit for renewal. The renewed Permit will update the hazardous waste treatment requirements at the Emerald Kalama Chemical facility in accordance with the Hazardous Waste Combustor Maximum Achievable Control Technology (HWC MACT) standards (40 CFR, Part 63, Subpart EEE) which are now included in the facility's Clean Air Act Title V air operating permit. The Title V permit includes operating plans, combustor/boiler feed analysis, training for boiler operators, and requirements for on-going testing. To eliminate duplication, these requirements will no longer be in effect in the Resource Conservation and Recovery Act (RCRA) permit.

A. Purpose of the Permitting Process

The purpose of the permitting process is to design specific administrative and operational requirements under which the Permittee must operate to comply with the Washington State Hazardous Waste Management Act, Chapter 70.105 Revised Code for Washington (RCW), and regulations promulgated thereunder in Chapter 173-303 of the Washington Administrative Code (WAC), the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA), and EPA regulations in 40 C.F.R. Parts 124 and 260 to 270.

Ecology and EPA (Agencies) are required to prepare a draft Permit which sets forth in one concise document all the applicable requirements with which Ecology and EPA will require the Permittee to comply with during the ten-year duration of the Permit.

B. Procedures for Reaching a Final Decision

WAC 173-303-840(3) and 40 CFR § 124.10 require that the public be given forty-five (45) days to comment on each draft RCRA permit. The comment period will begin on February 11, 2011 and will end March 29, 2011. Any person interested in commenting on this draft Permit must do so within this forty-five (45) day comment period.

Comments on the Permit or a request for a public hearing should be submitted in writing to:

Linda Meyer

U.S. EPA Region 10
1200 Sixth Avenue, Suite 900, AWT-121
Seattle, WA 98101-3140

Comments should include all reasonable available references, factual grounds and supporting material. All comments so submitted will be considered as submitted to both EPA and Ecology and will be reviewed by both Agencies.

Ecology and EPA will hold a public hearing if we receive sufficient requests for a public hearing. If requested, a public hearing will be held on March 15, 2011. To request a hearing, or to request special accommodations for a hearing, contact Linda Meyer by phone at (206) 553-6636, or by email at: meyer.linda@epa.gov by February 25, 2011. If there is sufficient interest Ecology and EPA will conduct a public hearing on March 15, 2011, at 6:00 p.m. at the Port of Kalama Building, 380 West Marine Drive, Kalama, WA. If there is sufficient interest, then EPA and Ecology will hold the hearing. To find out if the public hearing will be held, contact Linda Meyer by phone at (206)553-6636 after February 25, 2011.

When making a determination regarding the issuance of this permit, Ecology and EPA will consider all written comments received during the public comment period, comments received during a public hearing if one is held, the requirements of the hazardous waste regulations, and the Agencies' permitting policies.

When Ecology and EPA make a final decision to either issue, deny, or modify the draft Permit, notice will be given to Emerald and to each person who has submitted written comments, given formal testimony during the public hearing if one is held, or requested notice of the final decision. The final decision shall become effective no sooner than thirty (30) days after the notice unless a review is requested pursuant to 40 C.F.R. § 124.19 and WAC 173-303-845.

Availability of Information

A copy of the Administrative Record Index, which references all the information considered in compiling the draft Permit, is available for public review at EPA Region 10, 1200 Sixth Avenue, Seattle, Washington, 98101 between the hours of 9:00 a.m. and noon and 1:00 p.m. – 4:00 pm, PST, Monday through Friday February 11, 2011 through March 29, 2011.

Copies of the draft Permit and Risk Assessment are available for public access at the following locations:

EPA Region 10 Library
1200 Sixth Avenue
Seattle, WA 98101
(206)553-1289

Washington Department of Ecology
Southwest Regional Office Records Center
Hazardous Waste and Toxics Reduction
300 Desmond Drive SE
P.O. Box 47775
Olympia, Washington 98504-7775
(360)407-6365

Kalama Public Library
312 North First Street
Kalama, Washington 98625
(360)673-4568

C. Facility Description and Background

Location

The Emerald Kalama Chemical, LLC (Emerald) facility is located on the Columbia River, near the town of Kalama, Washington at 1296 Third Street N.W.

Hazardous Waste Generation and Treatment

The Emerald facility has been in operation since 1962. The facility manufactures a variety of chemicals that have applications as food preservatives, artificial flavorings, fragrances, chemical intermediates, plasticizers, and adhesives. The facility is comprised of four production units, which are referred to as the Intermediates Plant, the Specialty Plant, the Benzoate Plant, and the Plasticizer Plant.

Each of the manufacturing units can generate hazardous wastes. Part A of the draft Permit application lists hazardous wastes that are generated and managed by Emerald. The facility was issued a RCRA permit in July 2001 which became effective in August 2001 for treatment of hazardous/dangerous wastes in a boiler. The proposed draft permit is intended to replace the current Permit which expires in August 2011. More details regarding existing and proposed hazardous waste management operations are described below.

The facility generates three types of waste streams: process/production waste, miscellaneous waste, and discarded chemical waste. Process wastes are generated as by-products from several reaction and distillation processes and are characterized and expected to be consistent from batch to batch. Wastes may also be generated during cleanup of equipment for maintenance/repair. Miscellaneous waste generally comes from the wastewater treatment process, used oil recovery, and the three onsite laboratories. Lab wastes may contain raw materials, by-products, finished products, acetone, methanol and other solvents. Halogenated solvents are placed in a drum for offsite disposal and are not treated at the facility. The third category of waste, discarded

chemical waste, includes off-specification chemical products, raw materials, and other unused, or reclaimed organic chemicals.

All liquid hazardous wastes generated at the facility except for halogenated solvents are burned in the U-3 boiler. All of the wastes have high heating values. The energy released during the combustion of the waste is recovered and used to generate steam which is used to heat other processes within the facility.

The U-3 boiler is a Model MHT-26 single pass water-tube package boiler which can fire both liquid fuel (hazardous waste) and natural gas. The boiler is equipped with a manually-initiated steam soot-blowing system to remove slag and carbon buildup from the tubes. Both natural gas and hazardous waste are fired through a COEN Model 230 Fyr-Compak Register Type burner. Liquid waste is fired through an air atomized gun in the annulus of the ring burner, rated at 50 million british thermal units (BTU) per hour (MMBtu/hr). Combustion gas exits the boiler and flows through a heat exchanger with a rated heat absorption rate of 4.8 MMBtu/hr to preheat the boiler feed water. Combustion gases are cooled, routed through a spark arrestor chamber, and then routed through a baghouse to remove particulate matter. The baghouse captures particulate matter (including metals) generated in the combustion process. The bags are automatically cleaned by reverse air pulsing. Collected ash is discharged to drums by a conveyor. The ash is containerized, characterized, and shipped off-site for disposal. Combustion gases flow from the baghouse clean air plenum to the stack, where they are discharged to the atmosphere.

The emissions, and operating and control parameters relating to the incinerator and associated air pollution control equipment are regulated under the revised Title V Permit issued by the Southwest Clean Air Agency on July 9, 2010 (revised to include administrative changes on August 24, 2010), under 40 CFR 63 Subpart EEE. The performance of the waste combustion process is monitored by a Continuous Emission Monitoring System (CEMS) and a Continuous Parameter Monitoring System (CPMS). Collectively, the CEMS and the CPMS are referred to as Continuous Monitoring Systems (CMS). The CEMS meets all of the performance specifications detailed in the Appendix to Subpart EEE of 40 CFR Part 63 - "Quality Assurance Procedures for Continuous Emissions Monitors Used for Hazardous Waste Combustors." The CEMS consists of a set of sensors to monitor pollutant levels in the stack gas, along with associated tubing and controls. The CPMS monitors key process parameters with various temperature, pressure, and flow measuring devices, including outputs from the CEMS equipment. These data are generated by field transmitters and recorded and logged by a Distributed Control System (DCS). The DCS has a number of input channels and provides additional calculated value channels. Channel information can be displayed individually through digital readout, with measured value, channel number, engineering units, tag name, and alarm information. The DCS logs regulatory parameters continuously as required by the Title V permit.

The U-3 boiler is equipped with an automatic waste feed cutoff (AWFCO) system. The AWFCO system functions to eliminate hazardous waste feed to the boiler when operating conditions move outside of the limits established during the Comprehensive Performance

Test (CPT). The AWFCO system automatically stops the waste feed and prevents restart until the boiler is within the required operating conditions to ensure that the waste is combusted properly and emissions stay within the permitted levels.

The CPMS and CEMS described in this plan are integrated with the AWFCO system. The DCS compares the instantaneous or calculated rolling average values, depending on the parameter, to the corresponding parameter trip set point. Upon exceedance of an interlock set point, the control system activates a shutoff command to stop the hazardous waste feed. In addition, an AWFCO will trigger if the lower or upper range limits of any CMS instrument is reached or exceeded during a one-minute average.

The hazardous waste being fed to the boiler is characterized before it is fed to the boiler under the 40 CFR 63 Subpart EEE requirements of the Feed Analysis Plan (FAP) which is part of the Title V Permit. As long as waste that is fed to the boiler is not stored more than 90 days in the boiler feed tank and as long as all of the waste generated on site is managed within 90 days, there is no need for a RCRA Waste Analysis Plan.

D. Contents Of The Draft Permit

The draft Permit updates the previously issued permit, which was effective in August 2001 and will expire on August 20, 2011. The requirements specified in the 2001 Permit, including all Agency approved amendments, continue to be in effect until this new Permit becomes effective.

Several changes are being proposed in this draft Permit to reflect current conditions at the Emerald facility as well as changes to the regulations governing combustion of liquid hazardous wastes in the U-3 boiler. Operating and testing requirements for the boiler are now covered under 40 CFR 63.1200, Subpart EEE National Emission Standards for Hazardous Air Pollutants (NESHAP) from HWC MACT, as mandated by the Clean Air Act (CAA). Requirements of the Subpart EEE regulations have been incorporated into the facility's Title V Air Operating Permit issued on August 24, 2010. This draft Permit includes permit conditions regarding control of organic emissions from vents and lines feeding hazardous/dangerous waste into the boiler, emergency response procedures, training for employees who handle hazardous waste, closure of the hazardous waste management unit, corrective action to address releases of hazardous or dangerous waste, and financial assurance for closure and corrective action that are not included in the Title V Permit. These Permits are not redundant, and are intended to work together within the limits of the applicable regulatory authorities. Provisions regarding operation of hazardous waste boilers and industrial furnaces are not included in Ecology's authorized RCRA program, and thus these provisions are issued under EPA's jurisdiction.

The management of the hazardous waste, prior to its introduction into the U-3 boiler is covered under the State of Washington's dangerous waste management regulations found in WAC 173-303-200. The facility is not authorized to accept hazardous waste from other sources, or store hazardous waste; all of the hazardous waste generated must be treated within the 90-day accumulation period. As long as all of the hazardous waste generated is treated within the 90-day accumulation period, a permit for storage of these

hazardous wastes is not required. A permit for storage of these hazardous wastes is therefore not required.

This RCRA draft Permit also addresses the closure of the boiler, financial assurance required for closure, and site-wide corrective action as described in Consent Decree No. 08 2 00515 2, issued by Ecology. Items that were part of the 2001 Permit which are not covered in either 40 CFR Part 262 or in 40 CFR Subpart EEE are also included in this draft Permit. These provisions of this draft Permit fall within Ecology's authorized RCRA program, and are being issued under Ecology's jurisdiction.

Administrative Changes

Several administrative items have been corrected. These items include typographical errors such as misspelled words and erroneous references to other sections of the Permit.

Revision of Section III - Removal of Duplicative HWC MACT Requirements

Part III of the draft Permit sets forth the specific conditions applicable to the hazardous waste boiler. The regulatory framework for the operation of the boiler under RCRA is provided at 40 CFR Part 266, Subpart H, "Hazardous Waste Burned in Boilers and Industrial Furnaces" and 40 CFR § 270.66 "Permits for Boilers and Industrial Furnaces Burning Hazardous Waste." These regulatory provisions are hereafter referred to as the "Boiler and Industrial Furnace" or "BIF" regulations.

Certain provisions of RCRA's BIF regulations, primarily those pertaining to performance and operation of the U-3 Boiler, overlap with the requirements promulgated under authority of the Clean Air Act found at 40 CFR Part 63, Subpart EEE "National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors." The Subpart EEE regulatory provisions are hereafter referred to as the "hazardous waste combustor maximum achievable control technology" or "HWC MACT" regulations. Introductory language to 40 CFR Part 266, Subpart H and § 270.66 states that duplicative BIF requirements can be removed from the RCRA Permit once the Permittee documents compliance with 40 CFR Part 63, Subpart EEE requirements. Emerald submitted a Notice of Compliance on February 9, 2009. Therefore, the duplicative BIF requirements, such as operating procedures, maintenance, and emission standards are no longer included in Part III of the draft RCRA Permit.

An additional consideration in developing the Part III conditions for the draft Permit is whether additional terms and conditions beyond those implementing the BIF and HWC MACT requirements are needed to assure protection of human health and the environment in accordance with 40 CFR § 270.32(b)(2). A multi-pathway, site specific risk assessment was performed to address this issue and is documented in the administrative record for this draft Permit decision (Risk Assessment Update 36-Month Recertification Test, January 2005).

The results of the risk assessment indicate that risks from emissions from the continued operation of the U-3 Boiler are protective for human health and the environment. The risk assessment used conservative assumptions in recognition that local residents may be

exposed to emission sources other than those evaluated for Emerald. The Emerald risk assessment results assume that the total amount of hazardous waste fed to the boiler does not exceed 5,523,165 pounds per calendar year.

Data collected pursuant to the 40 CFR Part 63, Subpart EEE comprehensive performance test conducted on November 11 and 12, 2008 for demonstration of compliance with the HWC MACT regulations were used to conduct a qualitative risk evaluation. Stack emissions measured during the CPT were compared to emissions from the RCRA trial burn in 2005 and used in the 2005 quantitative risk assessment. The risk assessment was revised to identify new toxicity benchmarks or standards. This work is documented in the Work Assessment Work Plan dated September 2010. The 2010 risk evaluation concludes that the recently measured boiler emissions and standards in the Title V air permit are protective of human health.

The draft Permit allows the Administrator the option of postponing the requirement to perform another risk assessment (RA). The RA may be postponed as long as the total amount of hazardous waste processed in the U-3 boiler does not exceed the current permitted quantity; and the manufacturing operations do not change in a manner that would significantly impact air emissions from the U-3 boiler. This must be demonstrated with the results obtained during the periodic Comprehensive Performance Tests (CPT) required by 40 CFR § 63.1206. The draft Permit requires the facility to submit emissions results from each CPT to the Administrator with a comparison to the emissions used to evaluate human health risk in the September 2005 RA Report. In the event that the Administrator determines a revised RA is warranted, the facility must submit a RA Work Plan followed by a RA Report based on the current version of US EPA Guidance for Performance of Human Health and Ecological Risk Assessments for Hazardous Waste Combustion Facilities, (EPA 520-R-05-006, September 2005). The Administrator may require additional emission testing to gather additional data for use in a RA.

Draft Permit Organization

The draft Permit is divided into four parts and ten attachments, as described below:

Part I	Standard Conditions
Part II	General Facility Standards
Part III	Boiler Requirements
Part IV	Corrective Action

Part I and II of the draft Permit contain conditions which generally apply to all hazardous waste management facilities. Part III of the draft Permit contains provisions which pertain to the boiler and are not included in the Title V Permit, for example, limits on the amount of hazardous waste which can be fed to the boiler. Part IV of the draft Permit specifies the corrective action procedures required by WAC 173-303-64610.

The following ten (10) attachments are incorporated into the proposed draft Permit by reference. These Permit attachments provide the details associated with the facility's response to a release of hazardous waste, response requirements to past releases, and procedures to ensure proper handling of wastes to avoid or minimize hazards to human health and the environment.

Attachment A	Facility Description and Maps of Facility Location <ul style="list-style-type: none">• Facility Plot Plan;• USGS 7.5' Quadrangle Map- Kalama, WA-OR• FEMA Flood Insurance Rate Map –Cowlitz County, WA• 2001 On-Site Meteorological Station Windrose; and• Wind Direction Data for 5-year Period (1997-2001) for on-site meteorological station.
Attachment B	Part A Permit Application
Attachment B	Security
Attachment C	Personnel Training Outline
Attachment D	General Inspection Requirements
Attachment E	Preparedness and Prevention
Attachment F	Contingency Plan
Attachment G	Closure Plan and Financial Assurance
Attachment H	Subpart BB: Air Emission Standards for Equipment Leaks
Attachment I	Consent Decree No. 08 2 00515 2 as issued on March 17, 2008, under Model Toxics Control Act (MTCA) RCW 70.705D.
Attachment J	Remedial Investigation Revision 2 BFGoodrich Facility report, as issued on December 15, 2000, consisting of Section 2.2.2, pages 2-7, 2-8, 2-9, 2-10, 2-11, and 2-12; and Section 2.4, Figure 2-3.