



Mike DeWine, Governor
Jon Husted, Lt. Governor
Laurie A. Stevenson, Director

September 13, 2019

Cristal USA, Inc. aka INEOS Pigments
USA, Inc.
Millennium Inorganic Chemicals Inc.
SCM Chemicals Inc.
2900 Middle Road
Ashtabula, Ohio 44004

Re: Cristal USA, Inc. aka INEOS Pigments USA, Inc.
Millennium Inorganic Chemicals Inc.
SCM Chemicals Inc.
Director's Final Findings and Orders (DFFO)
DFFO
Industrial Solid Waste Landfills
Ashtabula County
ISWL018450

Subject: Final Findings and Orders of the Director

Dear Sir or Madam:

Transmitted herewith are the Final Findings and Orders of the Director concerning the matter indicated for Cristal USA, Inc. aka INEOS Pigments USA, Inc., Millennium Inorganic Chemicals Inc., SCM Chemicals Inc..

You are hereby notified that this action of the Director of Ohio EPA (Director) is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00 made payable to "Treasurer, State of Ohio." The Commission, in its discretion, may reduce the fee if by affidavit it is demonstrated that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
30 East Broad Street, 4th Floor
Columbus, Ohio 43215

If you have any questions, please contact Janine Maney at (614) 644-3037.

Sincerely,

A handwritten signature in cursive script that reads "Jeri Main".

Jeri Main, Administrative Professional Unit
Division of Materials & Waste Management

Enclosure

cc: Janine Maney, Legal
Aaron Shear, DMWM, CO
Vlad Cica, Chief, DMWM
Todd Anderson, Legal
Michael Guastella, Government & Business Relations

I certify this to be a true and accurate copy of the official documents as filed in the records of the Ohio Environmental Protection Agency.

**BEFORE THE
OHIO ENVIRONMENTAL PROTECTION AGENCY**

In the Matter Of:

Cristal USA, Inc. aka INEOS Pigments USA, Inc. : **Director's Final**
Millennium Inorganic Chemicals Inc. : **Findings and Orders**
SCM Chemicals Inc. :
2900 Middle Road :
Ashtabula, Ohio 44004 :

Michael A. Shapiro 9/13/2019

I. JURISDICTION

Ohio EPA SEP 13 '19
Entered Directors Journal

These Director's Final Findings and Orders (Orders) are hereby issued to Cristal USA, Inc., aka INEOS Pigments USA, Inc. (and formerly known as Millennium Inorganic Chemicals Inc. or SCM Chemicals Inc.), and successor owners in interest, pursuant to the authority vested in the Director of the Ohio Environmental Protection Agency ("Ohio EPA") under Ohio Revised Code ("ORC") Sections 3734.02(G) and 3745.01.

II. PARTIES

These Orders shall apply to and be binding upon INEOS Pigments USA, Inc., aka Cristal USA, Inc. (and formerly known as Millennium Inorganic Chemicals Inc. or SCM Chemicals Inc.), and successor owners in interest, liable under Ohio law. No changes in ownership, as hereinafter defined, shall in any way alter obligations under these Orders.

III. DEFINITIONS

Unless otherwise stated, all terms used in these Orders shall have the same meaning as used in ORC Chapter 3734 and the rules promulgated thereunder.

IV. FINDINGS OF FACT

Nothing in these Findings shall constitute or be construed as an admission by Cristal USA, Inc., aka INEOS Pigments USA, Inc. that divisions (P) or (Q) of section 3734.02 of the Revised Code apply to the disposal of Cristal's Technologically Enhanced Naturally Occurring Radioactive Material (TENORM) filter cake or other plant source byproducts of Titanium Dioxide Manufacturing Operations at the SCM Ashtabula permitted landfill, located at 4300 Middle Road, Ashtabula, Ohio.

The Director of Ohio EPA (Director) has determined the following findings:

1. Cristal USA, Inc., aka INEOS Pigments USA, Inc. (and formerly known as Millennium Inorganic Chemicals Inc. or SCM Chemicals Inc.), own and operate titanium dioxide (TiO₂) manufacturing facilities in Ashtabula, Ohio, which are referred to as Plant 1 and Plant 2 (SCM Plants). The two SCM Plants generate approximately 200,000 to 300,000 tons per year of non-hazardous solid waste,

approximately 98% of which is metal hydroxide filter cake generated from a waste water neutralization system.

2. Cristal USA, Inc., aka INEOS Pigments USA, Inc. (and formerly known as Millennium Inorganic Chemicals Inc. or SCM Chemicals Inc.), own and operate a captive industrial solid waste landfill, the SCM Ashtabula Landfill, which is located approximately 2 ½ miles east of Ashtabula bounded by Middle Road to the north, Cook Road to the west, Conrail tracks to the south, and property 1400 feet west of Sill Road to the east, at Middle Road, Ashtabula, Ohio.
3. On April 30, 1997, Ohio EPA issued Permit to Install (PTI) Number 02-9981 to SCM Chemicals Inc. authorizing the construction and operation of a 345-acre captive industrial solid waste landfill subject to provisions of OAC Rule 3745-29, designed for the disposal of solid waste, excluding general refuse, generated by the two SCM Ashtabula Titanium Dioxide facilities (SCM Plants 1 and 2), consisting primarily of metal hydroxide filter cake waste generated from Titanium Dioxide (TiO₂) manufacturing.
4. ORC Section 3734.02 (P) states: "The owner or operator of a solid waste facility shall not accept for transfer or disposal technologically enhanced naturally occurring radioactive material if that material contains or is contaminated with radium-226, radium-228, or any combination of radium-226 and radium-228 at concentrations equal to or greater than five picocuries per gram above natural background."
5. ORC Section 3734.027(A) states: "No person shall commingle with any type of solid wastes, hazardous waste, or infectious wastes any low-level radioactive waste whose treatment, recycling, storage, or disposal is governed under division (B) of section 3748.10 of the Revised Code." ORC Section 3734.027(B) states: "Except as authorized by the director of health under Chapter 3748. of the Revised Code and rules adopted under it, no owner or operator of a solid waste facility, infectious waste treatment facility, or hazardous waste facility shall accept for transfer, storage, treatment, or disposal or shall transfer, store, treat, or dispose of any radioactive waste specified in division (A) of this section [ORC 3734.027(A)]."
6. In May of 2019 Cristal USA, Inc. requested an ORC Section 3734.02(G) exemption from the requirements contained in ORC Section 3734.02(P). Cristal has indicated that filter cake samples are collected on a monthly basis from Plant 1 and Plant 2 at the Ashtabula Complex, and analyzed for Radium 226 and 228 as well as other parameters. Ground water samples were also measured for radium 226 and 228. As of the effective date of this exemption, the SCM Ashtabula Landfill utilizes intra-well statistical analysis pursuant to OAC Rule 3745-30-08, and the SCM Ashtabula Landfill is not currently conducting assessment monitoring.
7. As of the effective date of this exemption, the basic process that generates filter cake at the SCM Plants 1 and 2 has remained unchanged since the PTI for the

SCM Ashtabula Landfill, a captive industrial solid waste landfill, was issued in 1997. Filter Cake Waste subject to Cristal's exemption request is a solid waste that is not a hazardous waste as defined in ORC Section 3734.01, due to listing or by the characteristic of corrosivity, ignitability, reactivity, or toxicity. The waste subject to this exemption does not include any waste that would constitute low level radioactive waste as that term is used in ORC Section 3734.027.

8. As stated in Finding No. 2, above, the landfill is a captive facility that only accepts solid waste generated from SCM Plants 1 and 2. The landfill is not accessible to the general public, nor does it accept waste generated from the public.
9. On August 14, 2012, the Ohio Department of Health issued a "Waiver of Requirement for a Specific License for Possession of TENORM Filtercake as a byproduct of Titanium Dioxide Manufacturing Operations." On August 30, 2019, the Ohio Department of Health renewed the waiver, subject to certain conditions, and determined that INEOS Pigments, USA Inc. be granted a waiver to Ohio Administrative Code rule 3701:1-43-18 for disposal of TENORM material generated at the INEOS Pigments USA, Inc. facilities located in Ashtabula, Ohio into the captive industrial waste landfill, located at Middle Road, Ashtabula Ohio.
10. Pursuant to ORC Section 3734.02(G), the Director, by order, may exempt any person generating, collecting, storing, treating, disposing of, or transporting solid wastes in such quantities or under such circumstances that, in the determination of the Director, are unlikely to adversely affect the public health or safety or the environment from any requirement to obtain a permit or license or comply with other requirements of ORC Chapter 3734. and any rules adopted thereunder.
11. Based upon the above Findings and the Conditions set forth in the Orders below, granting Cristal USA, Inc., aka INEOS Pigments USA, Inc. (and formerly known as Millennium Inorganic Chemicals Inc. or SCM Chemicals Inc.), an exemption from the requirements contained in ORC Section 3734.02(P) for the solid waste consisting of TENORM byproducts of Cristal's Titanium Dioxide Manufacturing Operations and generated at SCM Plants 1 and 2, and disposed at the SCM Ashtabula permitted captive industrial waste landfill, located at 4300 Middle Road, Ashtabula, Ohio, is unlikely to adversely affect the public health or safety or the environment, provided that Cristal USA, Inc., aka INEOS Pigments USA, Inc., Millennium Inorganic Chemicals Inc., and SCM Chemicals Inc., and successor owners in interest, perform all activities in accordance with all applicable Federal and State Laws, these Orders and the permit-to-install for the SCM Ashtabula captive industrial waste landfill.

V. Orders

1. Pursuant to ORC Section 3734.02(G), Cristal Inc., aka INEOS Pigments USA, Inc., Millennium Inorganics Chemicals, Inc., and any successor owner in interest, is hereby exempted from the requirements contained in ORC Section 3734.02(P) for the solid waste consisting of TENORM byproducts of Cristal's Titanium Dioxide Manufacturing Operations disposed on or after September 29, 2013 and up and until the effective date of this Exemption Order at the SCM Ashtabula permitted captive industrial waste landfill, located at 4300 Middle Road, Ashtabula, Ohio.
2. Pursuant to ORC Section 3734.02(G), Cristal Inc., aka INEOS Pigments USA, Inc., Millennium Inorganics Chemicals, Inc., and any successor owner in interest, is hereby exempted from the requirements contained in ORC Section 3734.02 (P) for the disposal of solid waste consisting of TENORM byproducts of Cristal's Titanium Dioxide Manufacturing Operations, at the SCM Ashtabula permitted captive industrial waste landfill, located at 4300 Middle Road, Ashtabula, Ohio.
3. The exemptions in Order Numbers 1 and 2 shall not apply to any solid waste other than solid waste consisting of TENORM byproducts of Titanium Dioxide Manufacturing Operations. The exemptions in Order Numbers 1 and 2 shall not apply to the disposal of TENORM byproducts of Cristal's Titanium Dioxide Manufacturing Operations in any landfill other than at the SCM Ashtabula permitted captive industrial waste landfill, located at 4300 Middle Road, Ashtabula, Ohio. The exemptions in Order Numbers 1 and 2 shall not apply to any materials that constitute Hazardous Waste, as that term is defined in ORC Section 3734.01. The exemptions in Order Numbers 1 and 2 shall not apply to any material that constitutes low-level radioactive waste as that term is used in ORC Section 3734.027 and ORC Section 3748.10.
4. Nothing in these Orders shall be construed to authorize any activity, method, or waiver from the requirements of ORC Chapter 3734. or the regulations promulgated thereunder, except as expressly provided herein.
5. Nothing in these Orders shall be construed to authorize any activity that deviates from the permit-to-install, PTI Number 02-9981, or any modifications thereto issued by Ohio EPA for the SCM Ashtabula Landfill, a captive industrial waste landfill.
6. These Orders shall not be interpreted to release Cristal Inc., aka INEOS Pigments USA, Inc., Millennium Inorganics Chemicals, Inc., and any successor owner in interest from responsibility under ORC Chapters 3704., 3734., or 6111.; under the Federal Clean Water Act, the Resource Conservation and Recovery Act, or the Comprehensive Environmental Response, Compensation, and Liability Act; or from other applicable requirements for remedying conditions resulting from any release of contaminants to the environment, or from the requirement to obtain all other necessary authorizations under applicable Federal and State law, including any applicable authorization, license, waiver, variance or exemption required by

the director of health under Chapter 3748 of the Revised Code, or rules adopted thereunder.

7. Issuance of this Exemption does not relieve SCM Chemicals Inc., Cristal Inc., aka INEOS Pigments USA, Inc., Millennium Inorganics Chemicals, Inc., or any successor owner in interest from the duty to comply with all applicable federal, state, and local laws and regulations.

VI. MODIFICATIONS

These Exemption Orders may be modified by agreement of the parties hereto, and pursuant to ORC Section 3734.02(G). Modifications to these Orders shall be in writing and shall be effective on the date entered in the journal of the Director of Ohio EPA.

VII. OTHER CLAIMS

Nothing in this Exemption Order shall constitute or be construed as a release from any claim, cause of action, or demand in law or equity against any person, firm, partnership, or corporation, not a party to these Orders.

VIII. OTHER APPLICABLE LAWS

All actions required to be taken pursuant to these Exemption Orders shall be undertaken in accordance with the requirements of all applicable local, state, and federal laws and regulations. Nothing in these Orders shall be construed as waiving or compromising in any way the applicability and enforcement of any other applicable statutes or regulations. Ohio EPA reserves all rights and privileges except as specified herein.

IX. RESERVATION OF RIGHTS

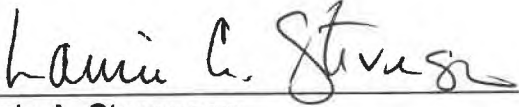
Nothing contained herein shall be construed to prevent Ohio EPA from seeking legal or equitable relief to enforce the terms of these Orders or from taking other administrative, legal, or equitable action as deemed appropriate and necessary for noncompliance with these Orders. Nothing contained herein shall be construed to prevent Ohio EPA from exercising its lawful authority to require Cristal USA, Inc., aka INEOS Pigments USA, Inc. to perform additional activities pursuant to ORC Chapter 3734 or any other applicable law in the future. Nothing in these Orders shall be construed to limit the authority of Ohio EPA to seek relief for violations that may occur at the SCM Ashtabula Landfill.

X. SIGNATORY AUTHORITY

Each undersigned representative of a party to these Orders certifies that he or she is fully authorized to enter into these Orders and to legally bind such party to these Orders.

ORDERED AND AGREED:

Ohio Environmental Protection Agency

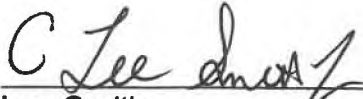
A handwritten signature in black ink, appearing to read "Laurie A. Stevenson", written over a horizontal line.

Laurie A. Stevenson
Director

9/13/19

Date

IT IS SO AGREED:

A handwritten signature in cursive script, appearing to read "Lee Smith", written over a horizontal line.

Lee Smith

Operations Director, INEOS Pigments Ashtabula Complex
Authorized Representative of Cristal USA, Inc.,
aka INEOS Pigments USA, Inc.

9-10-19

Date