State of Utah

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Department of
Environmental Quality

Kimberly D. Shelley
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DIVISION OF AIR QUALITY
Bryce C. Bird
Director

DAQE-IN122220002-21

August 3, 2021

Todd Schmanski
Balchem Corporation
1774 West 2800 South
Ogden, UT 84401
Tschmanski@balchem.com

Dear Mr. Schmanski:

Re: Intent to Approve:
Modification to DAQE-AN122220001-10 to Update Equipment
Project Number: N122220002

The attached document is the Intent to Approve (ITA) for the above-referenced project. The ITA is subject to public review. Any comments received shall be considered before an Approval Order (AO) is issued. The Division of Air Quality is authorized to charge a fee for reimbursement of the actual costs incurred in the issuance of an AO. An invoice will follow upon issuance of the final AO.

Future correspondence on this ITA should include the engineer's name, **Sarah Foran,** as well as the DAQE number as shown on the upper right-hand corner of this letter. Sarah Foran, can be reached at (385) 306-6724 or sforan@utah.gov, if you have any questions.

Sincerely,

Jon L. Black
Jon Black (Aug 3, 2021 11:55 MDT)

Jon L. Black, Manager
New Source Review Section

JLB:SF:sb

cc: Weber-Morgan Health Department

STATE OF UTAH
Department of Environmental Quality
Division of Air Quality

INTENT TO APPROVE
DAQE-IN122220002-21
Modification to DAQE-AN122220001-10 to Update Equipment

Prepared By
Sarah Foran, Engineer
(385) 306-6724
sforan@utah.gov

Issued to
Albion Manufacturing Technologies, Inc. - Food Supplements Production Facility

Issued On
August 3, 2021

Jon L. Black
Jon Black (Aug 3, 2021 11:55 MDT)

New Source Review Section Manager
Jon L. Black

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GENERAL INFORMATION

CONTACT/LOCATION INFORMATION

Owner Name
Balchem Corporation

Source Name
Albion Manufacturing Technologies, Inc.- Food Supplements Production Facility

Mailing Address
1774 West 2800 South
Ogden, UT 84401

Physical Address
2774 South 1760 West
Ogden, UT 84401

Source Contact
Name Todd Schmanski
Phone (801) 622-4031
Email Tschmanski@balchem.com

UTM Coordinates
414,305 m Easting
4,563,124 m Northing
Datum NAD83
UTM Zone 12

SIC code 2833 (Medicinal Chemicals & Botanical Products)

SOURCE INFORMATION

General Description
Albion Manufacturing Technologies Facility (Albion) under the ownership of Balchem Corporation, Inc, operates a Food Supplements Production Facility. The plant produces nutritional supplements using feedstocks including magnesium, manganese, calcium, chromium, vanadium, zinc, and iron. Total production on-site equates to 14,000 tons/year of product from the box dryer and tower dryer lines, and 1.2 million pounds/year of supplements from the granulation line.

NSR Classification
Minor Modification at Minor Source

Source Classification
Located in Salt Lake City CO Maintenance Area, Northern Wasatch Front O3 NAA, Salt Lake City UT $PM_{2.5}$ NAA
Weber County
Airs Source Size: B

Applicable Federal Standards
MACT (Part 63), A: General Provisions
MACT (Part 63), VVVVVV: National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources

Project Description
Albion requested a modification to its existing permit to update equipment for the granulation line. The new granulation line includes; mixing tanks, a wet scrubber, fluidized bed dryers, a baghouse and new boilers.

With the addition, the site will now operate three (3) lines; a tower dryer process line, the box dryer process line, and the new granulation process. The granulation process mixes raw materials, including minerals and nutrients, based on the specifications of the product. The mixture is transported two (2) fluidized bed dryers controlled by baghouses. The resulting product is packaged and shipped off site.

The existing tower and box dryer lines (permitted as II.A.3 and II.A.4 in DAQE-AN012222001-10) similarly mix raw materials to create a liquid mixture which is dried in the box or tower dryer. No equipment will be added or removed from these processes. However, the source requested an update to condition II.B.2.b to increase the baghouse pressure drop to reflect normal operating parameters.

The 2021 NOI incorporates additional changes to the granulation line and the ferrochel process. The Granulation line throughput will increase from 600 tons per year to 1,200 tons per year. The ferrochel process rate will increase from 192.47 tons to 600 tons per year. Conditions II.B.1.a.B and II.B.1.a.C in this document were updated accordingly.

SUMMARY OF EMISSIONS

The emissions listed below are an estimate of the total potential emissions from the source. Some rounding of emissions is possible.

Criteria Pollutant	Change (TPY)	Total (TPY)
CO_2 Equivalent		4058.46
Carbon Monoxide	6.29	8.95
Nitrogen Oxides	1.24	12.54
Particulate Matter - PM_{10}	0.26	1.27
Particulate Matter - $PM_{2.5}$		0.26
Sulfur Dioxide	0.02	0.09
Volatile Organic Compounds	0.19	0.87

Hazardous Air Pollutant	Change (lbs/yr)	Total (lbs/yr)
Generic HAPs (CAS #GHAPS)		15
	Change (TPY)	**Total (TPY)**
Total HAPs		0.01

PUBLIC NOTICE STATEMENT

The NOI for the above-referenced project has been evaluated and has been found to be consistent with the requirements of UAC R307. Air pollution producing sources and/or their air control facilities may not be constructed, installed, established, or modified prior to the issuance of an AO by the Director.

A 30-day public comment period will be held in accordance with UAC R307-401-7. A notification of the intent to approve will be published in the Ogden Standard Examiner on August 5, 2021. During the public comment period the proposal and the evaluation of its impact on air quality will be available for the public to review and provide comment. If anyone so requests a public hearing within 15 days of publication, it will be held in accordance with UAC R307-401-7. The hearing will be held as close as practicable to the location of the source. Any comments received during the public comment period and the hearing will be evaluated. The proposed conditions of the AO may be changed as a result of the comments received.

SECTION I: GENERAL PROVISIONS

The intent is to issue an air quality AO authorizing the project with the following recommended conditions and that failure to comply with any of the conditions may constitute a violation of the AO.

I.1	The owner/operator shall comply with UAC R307-107. General Requirements: Breakdowns. [R307-107]
I.2	All definitions, terms, abbreviations, and references used in this AO conform to those used in the UAC R307 and 40 CFR. Unless noted otherwise, references cited in these AO conditions refer to those rules. [R307-101]
I.3	The limits set forth in this AO shall not be exceeded without prior approval. [R307-401]
I.4	Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved. [R307-401-1]
I.5	All records referenced in this AO or in other applicable rules, which are required to be kept by the owner/operator, shall be made available to the Director or Director's representative upon request, and the records shall include the two-year period prior to the date of the request. Unless otherwise specified in this AO or in other applicable state and federal rules, records shall be kept for a minimum of two (2) years. [R307-401-8]
I.6	At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this AO, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Director which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on equipment authorized by this AO shall be recorded. [R307-401-4]
I.7	The owner/operator shall comply with UAC R307-150 Series. Emission Inventories. [R307-150]

SECTION II: PERMITTED EQUIPMENT

The intent is to issue an air quality AO authorizing the project with the following recommended conditions and that failure to comply with any of the conditions may constitute a violation of the AO.

II.A THE APPROVED EQUIPMENT

II.A.1	**Food Supplements Production Facility**
II.A.2	**One (1) Boiler** Rating: 6.28 MMBtu/hr Fuel: Natural Gas Burner Type: Low NO_x Burner

II.A.3	**Box Dryer Process Line**
II.A.4	**Two (2) Liquefiers** Process rate: 1,100 lb/hr Wet process, included for informational purposes
II.A.5	**One (1) Mixing Tank** Control : Box Baghouse and Cyclone
II.A.6	**One (1) Box Dryer** Fuel: Natural Gas Consumption Rate: 6,000 ft3/hr Control : Box Baghouse and Cyclone
II.A.7	**Tower Dryer Process Line**
II.A.8	**One (1) Mixing Tank**
II.A.9	**Two (2) Liquefiers** Process rate: 2,100 lb/hr Wet process, included for informational purposes
II.A.10	**One (1) Tower Dryer/Baghouse** Fuel Type: Natural Gas Max Consumption Rate: 10,000 ft3/hr Control : Box Baghouse and Cyclone
II.A.11	**One (1) Granulation Line (NEW)**
II.A.12	**One (1) Mixing Tank (dry)** Control: Venturi Wet Scrubber
II.A.13	**Two (2) Fluidized Bed Dryers** Control: One (1) baghouse each Max Flow Rate: 5,600 cfm Each
II.A.14	**One (1) Processing Tank** included for informational purposes
II.A.15	**One (1) Steam Generator** Rating: 7.88 MMBtu/hr Fuel: Natural Gas

SECTION II: SPECIAL PROVISIONS

The intent is to issue an air quality AO authorizing the project with the following recommended conditions and that failure to comply with any of the conditions may constitute a violation of the AO.

II.B REQUIREMENTS AND LIMITATIONS

II.B.1	**Site-Wide Requirements**
II.B.1.a	The owner/operator shall not exceed the following production limits per rolling 12-month period: A. 14,000 tons of product from the box and tower dryer lines B. 1,200 tons of supplement from the granulation line C. 600 tons of Ferrochel. [R307-401-8]
II.B.1.a.1	Compliance with the annual limitations shall be determined on a rolling 12-month total. The owner/operator shall calculate a new 12-month total by the twentieth day of each month using data from the previous 12 months. Records of production shall be kept for all periods when the plant is in operation. The records of production shall be kept on a daily basis. Hours of operation shall be determined by supervisor monitoring and maintaining of an operations log. [R307-401-8]
II.B.1.b	The owner/operator shall not allow visible emissions to exceed the following opacities: A. Boiler- 5% B. Baghouses, Cyclones, Scrubbers, and Steam Generator- 10% C. All other points - 20%. [R307-401-8]
II.B.1.b.1	Opacity observations of emissions from stationary sources shall be conducted in accordance with 40 CFR 60, Appendix A, Method 9. [R307-305-3]
II.B.1.c	The owner/operator shall route emissions to the applicable control device as listed in Section II.A of this AO. [R307-401-8]
II.B.1.d	The owner/operator shall install a manometer or magnehelic pressure gauge to measure the differential pressure across each baghouse. The baghouses shall operate within the static pressure ranges recommended by the manufacturers. [R307-401-8]

II.B.1.d.1	Pressure drop readings for each baghouse shall be recorded at least once during each day of operation while the baghouse is operating. Records documenting the pressure drop shall be kept in a log and shall include the following: A. Unit identification; B. Manufacturer recommended pressure drop for the unit; C. Daily/Weekly pressure drop readings; D. Date of reading. [R307-401-8]
II.B.1.d.2	Each pressure gauge shall be located such that an inspector/operator can safely read the indicator at any time. [R307-401-8]
II.B.1.d.3	Each pressure gauge shall be calibrated in accordance with the manufacturer's instructions or recommendations or replaced at least once every 12 months to ensure accuracy within plus or minus one inch of water column Documentation of calibrations and replacements shall be maintained. [R307-401-8]
II.B.1.e	The owner/operator shall ensure the venturi wet scrubber flow rate is no less than 51 ft^3/s. [R307-401-8]
II.B.1.e.1	Flow rate readings shall be recorded at least once during each day of operation while the scrubber is operating. [R307-401-8]

PERMIT HISTORY

This Approval Order shall supersede (if a modification) or will be based on the following documents:

Supersedes	DAQE-AN0122220001-10 dated February 1, 2010
Is Derived From	NOI dated March 29, 2019
Incorporates	Additional Information dated December 16, 2019
Is Derived From	Revised NOI dated February 1, 2021
Incorporates	Additional Information dated May 12, 2021

ACRONYMS

The following lists commonly used acronyms and associated translations as they apply to this document:

40 CFR	Title 40 of the Code of Federal Regulations
AO	Approval Order
BACT	Best Available Control Technology
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CDS	Classification Data System (used by Environmental Protection Agency to classify sources by size/type)
CEM	Continuous emissions monitor
CEMS	Continuous emissions monitoring system
CFR	Code of Federal Regulations
CMS	Continuous monitoring system
CO	Carbon monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent - Title 40 of the Code of Federal Regulations Part 98, Subpart A, Table A-1
COM	Continuous opacity monitor
DAQ/UDAQ	Division of Air Quality
DAQE	This is a document tracking code for internal Division of Air Quality use
EPA	Environmental Protection Agency
FDCP	Fugitive dust control plan
GHG	Greenhouse Gas(es) - Title 40 of the Code of Federal Regulations 52.21 (b)(49)(i)
GWP	Global Warming Potential - Title 40 of the Code of Federal Regulations Part 86.1818-12(a)
HAP or HAPs	Hazardous air pollutant(s)
ITA	Intent to Approve
LB/YR	Pounds per year
MACT	Maximum Achievable Control Technology
MMBTU	Million British Thermal Units
NAA	Nonattainment Area
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standards for Hazardous Air Pollutants
NOI	Notice of Intent
NO_x	Oxides of nitrogen
NSPS	New Source Performance Standard
NSR	New Source Review
PM_{10}	Particulate matter less than 10 microns in size
$PM_{2.5}$	Particulate matter less than 2.5 microns in size
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
R307	Rules Series 307
R307-401	Rules Series 307 - Section 401
SO_2	Sulfur dioxide
Title IV	Title IV of the Clean Air Act
Title V	Title V of the Clean Air Act
TPY	Tons per year
UAC	Utah Administrative Code
VOC	Volatile organic compounds