

U.S. ENVIRONMENTAL PROTECTION AGENCY

Region 1

EPCRA, CERCLA, and CAA § 112(r) Inspection Report

Date: June 9, 2023
From: Len Wallace and Tyler Diercks, USEPA Enforcement Officers
Through: Waste & Chemical Compliance Section
To: File
Subject: Chemical Accident Investigation and Inspection, under Clean Air Act (CAA) Risk Management Plan (RMP) Section 112(r) and General Duty Clause (GDC) Section 112(r)(1) and Emergency Planning and Community Right-To-Know Act (EPCRA) Sections 302-312, and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 103 of King Industries Inc., Norwalk, CT

GENERAL INFORMATION

Facility Name: King Industries, Inc.
DUNS Number: 42279513
EPA Facility: 1000 0004 3071

Address: 1 Science Road
Norwalk, CT 06852

Inspector Names: Len Wallace, EPA Region 1
Tyler Diercks, EPA Region 1
Sarah Biscardi, Eastern Research Group, Inc. (ERG)

Inspection Date: February 14, 2023

Type of Inspection: Risk Management Plan (RMP) CAA § 112(r), CAA 112(r)(1) General Duty Clause (GDC), CERCLA § 103, and EPCRA §§ 302-313 Compliance Evaluation Inspection

Purpose of Inspection:
Inspection of the King Industries, Inc. facility for compliance with EPA CAA § 112(r)(1) General Duty Clause (GDC), § 112(r)(7) Risk Management Plan (RMP) Program, CERCLA § 103, and EPCRA §§ 302-312. The facility was selected for a routine inspection because it stores over 10,000 pounds (lbs) of oleum (fuming Sulfuric acid) onsite and is subject to CAA 112(r) RMP requirements.

Current Owner: King Industries, Inc.
Current Operator: King Industries, Inc.
Primary NAICS codes: 3225199 – All Other Basic Organic Chemical Manufacturing

Number of Full-Time Employees (FTEs): 240

Estimated Annual Revenue: \$63.58M

Relationship to other firms, parent corporation, subsidiaries, and location of off-site facilities:
Privately owned facility for all manufacturing, research, marketing, and administrative functions located in Norwalk, CT. The company also operates a sales office in the Netherlands.

GENERAL FACILITY DESCRIPTION

King Industries, Inc. facility (King Industries or the “Facility”) located in Norwalk, Connecticut (CT) manufactures a variety of specialty chemicals for lubricants and coatings industries. The Facility uses fuming sulfuric acid (oleum 20%), which is a mixture of 20% sulfur trioxide and 80% sulfuric acid, in various product manufacturing lines. According to Facility representatives, King Industries has operated out of the same location in Norwalk, CT since 1932. The Facility currently employs 240 full-time employees and operates 24-hours a day. There are 19 employees dedicated to working on safety and environmental issues.

The Facility’s site contains 10 buildings. Building 10 serves as the main administrative building; Buildings 1 and 9 serve as warehouses for product storage; Building 2 supports offices and labs; and Building 8 supports offices and maintenance activities. Oleum processes are conducted in Buildings 3 and 6 and at the Oleum Tanker off-loading area between Building 3 and Tank Farm 4.

The Facility is located in a primarily commercial area of Norwalk. Residential areas are located less than 0.1-miles north and approximately 0.2-miles east of the Facility across Norwalk River. There is a Museum for Children and two public parks located within 1,500-feet of the Facility. The Facility property is enclosed by fencing on all sides. According to Facility personnel, there are multiple security cameras located around the Facility exterior and the gated entry to the Facility is attended by a security guard.

According to the Facility’s RMP submitted July 24, 2019, the Facility stores 150,000 pounds (lbs) of oleum onsite.

IN-BRIEF/OPENING CONFERENCE

The EPA inspection team, comprising Len Wallace and Tyler Diercks (EPA Inspectors) and Sarah Biscardi Eastern Research Group, Inc. (ERG) Contract Inspector, and John Burton Weston Solutions, Inc., entered the Facility at approximately 9:00 a.m. The inspection team presented identification to Robert King, Vice President of Operations for King Industries, during the opening conference in the second-floor conference room. Inspector Wallace conducted the opening meeting and explained the reason and scope of the inspection. Inspector Wallace presented the EPCRA Notice of Inspection to Mr. King, who signed as the Recipient of the Notice. Mr. King did not attempt to deny facility entry to the inspectors. Mr. King did not claim any information as Confidential Business Information (CBI). Facility employees are not represented by a union.

Facility Representatives:

Name	Title/Company	Phone Number	E-mail
Bob King	King Industries (KI), VP Operations	203-866-5551 x229	rking@kingindustries.com
Lang Reese	KI, Health & Safety	203-866-5551 x209	lreese@kingindustries.com
Mark Hinze	KI, Director of Engineering	203-866-5551 x357	mhinze@kingindustries.com
Michael Bourgoin	KI, Environmental Manager	203-866-5551 x300	Mbourgoin@kingindustries.com
Ed Bogan	KI, Production Manager	203-866-5551	ebogan@kingindustries.com
Patrick O'Sullivan	KI, Chemical Operator	203-873-8166	shawnphoto@gmail.com
Josh Kenny	KI, Procurement Manager	203-866-5551	jkenny@kingindustries.com
Victor Martinez	KI, Production Supervisor	203-866-5551	Vmartinez@kingindustries.com
Wes Randall	KI, Plant Manager LAD	203-866-5551	wrandall@kingindustries.com
Juan Flores	KI, Plant Supervisor	203-866-5551	jflores@kingindustries.com

Inspector Wallace shared the following guidance documents with facility representatives:

1. Guide to the Emergency Planning and Community Right-to-Know Act (Fall 2020)
2. EPCRA Quick Reference Fact Sheet (Fall 2020)
3. List of Lists (EPA 550-B-20-001, August 2020)
4. Small Business Resource Information Sheet (February 2020, EPA-300-F-20-002)
5. *National Response Center Oil and Chemical Spill Reporting* flyer
6. *Chemicals in Your Community* brochure (December 1999, EPA 550-K-99-001)

Inspector Wallace stated that after the opening meeting, the inspectors would do a walk-through inspection of the Facility's covered process and all other facility areas. He stated that the inspection team would be taking Photographs of items and areas of interest and a copy of all Photographs taken would be sent to the Facility representative after the inspection.

PHYSICAL INSPECTION

The EPA inspection team conducted a walk around of the following areas at King Industries:

1. Entrance Gate
2. Tank Farm 4 and surrounding area
3. Oleum Tanker Off-Loading Area
4. Building 3
5. Storage areas near Building 5
6. Tank Farm 2 and surrounding area
7. Building 6

8. Building 1 and area behind Building 8
9. Building 9

Inspector Wallace took a total of 466 digital Photographs during the one-day inspection to provide reference documentation of conditions observed. Note: 338 Photographs are duplicates of images as the burst photo setting was activated; there are 128 original Photographs. The Photographs are referenced throughout the document.

Entrance Gate

The EPA inspection team toured the main entrance gate to the Facility, located in western corner of the facility. All vehicles, including personnel vehicles and chemical delivery vehicles, enter and exit from this entrance gate. There is a guard house where a security guard remains present during business hours. Oleum trucks enter through this entrance gate and turn left towards Tank Farm 4 behind Building 2. The EPA inspectors identified the following areas of concern based on the tour of the area:

- A storm drain near the entrance was identified as bypassing the industrial wastewater treatment process and presents a risk of release to the environment if a spill were to occur near the truck entrance (see Photograph P1110563).
- Two transformers near the truck entrance gate lacked proper labeling in relation to polychlorinated biphenyl (PCB) oil status (see Photograph P1110573; Photograph P1110624 shows a transformer with proper PCB oil labeling).

Tank Farm 4 and Surrounding Area

The EPA inspection team toured the perimeter of Tank Farm 4 and the surrounding area, including a chemical storage locker, pallet and drum storage area, and trailer storage in the south corner of the facility. Oleum trucks must make a left turn around Tank Farm 4 to enter the Oleum Off-Loading Area. The EPA inspectors identified the following areas of concern based on the tour of the area:

- Transfer hoses near Tank Farm 4 were not labeled as flame-resistant (see Photograph P1110578 and P1110583).
- Piping near and leading to transfer hoses near Tank Farm 4 were not properly labeled (see Photograph P1110578 and P1110586).
- A tank in Tank Farm 4 (between Tanks 2TA001 and 2TA101) was unlabeled (see Photograph P1110593).
- Near Tank Farm 4, drums were stored on the ground outside of secondary containment and some drums were unlabeled.
- Near Tank Farm 4, drums of Heptane were stored on a wooden pallet on top of secondary containment (see Photograph P1110599).
- Secondary containment near Tank Farm 4 contained an unidentified standing liquid (see Photograph P1110599).
- Across from Tank Farm 4 near a parked trailer, drums were not stored on secondary containment and some drums lacked proper labeling (see Photograph P1110603).
- Across from Tank Farm 4, wooden pallets were stored in close proximity to drums of chemicals and were not provided proper fire protection separation distance (see Photograph P1110608).
- Across from Tank Farm 4, a chemicals storage trailer was used for aluminum chloride (CAS No. 7446-70-0), naphthalene (CAS No. 91-20-03), and triflic acid (CAS No. 1493-13-06) storage. Inspectors noted the confusing signage along the outside of the trailer that did not indicate that there was a chemical storage location within the trailer (see Photograph P1110613).

- CAMEO Chemicals Reactivity database shows Naphthalene and Aluminum Chloride are incompatible. The third Chemical, Triflic Acid, is not in the CAMEO Chemicals data base.

Oleum Tanker Off-Loading Area

The EPA inspection team toured the area between Building 3 and Tank Farm 4, where Oleum tanker trucks are offloaded. 20% Oleum, which is a solution of 20% sulfur trioxide and 80% active sulfuric acid is received as shipments from the supplier and offloaded here. Nitrogen is used at 25 psig to unload the oleum from the truck into the storage tank at a rate of 40 gpm. The oleum is offloaded into one of two double-walled 4,300-gallon storage tanks, 3TA101 and 3TA102. Both of these tanks contain a dry nitrogen atmosphere maintained in the outer tank as a safety and environmental protection feature. The EPA inspectors identified the following areas of concern based on the tour of the area:

- The equipment surrounding the tanker off-loading area did not have adequate bump protection (see Photographs P1110630, P1110634, P1110662, and P1110671).
- The nitrogen hose and piping for the pressurization system for tanker off-loading was not properly labeled with contents or as pressurized (see Photographs P1110639 and P1110645).
- Labeling of 66° Sulfuric Acid piping and tanks was not updated to a concentration percentage (see Photographs P1110649 and P1110671).
- Transfer piping near tanker off-loading area was not properly labeled (see Photographs P1110652 and P1110657).
- Wooden box covering a pump and plastic storage box next to tanker off-loading area was not fire-proof and did not have adequate bump protection (see Photograph P1110662).
- The diked containment area near the tanker off-loading area contained patched concrete lacking appropriate sealant/protective coating (see Photographs P1110676 and P1110696).
- The diked containment area next to the tanker off-loading area contained an unlabeled tank (see Photograph P1110676).
- The unlabeled tank in diked containment area adjacent to the tanker off-loading area had corrosion on the footings (see Photograph P1110676, P1110700, and P1110736). The King Industries Site Plan identifies this tank as 3TA007.
- The base of Tank 3TA004 appeared to have minor rusting and had less than 6 inches of concrete clearance past the bolted footing (see Photograph P1110680).
- The green cover of grounding wire associated with the tanker off-loading tanks (3TA004) appeared to be degrading (see Photograph P1110680).
- Tanker grounding Scully system was not interlocked to the tanker off-loading process (see Photograph P1110685).

- Unlabeled piping next to Tank 14SCB201 appeared to be leaking (see Photograph P1110689).
- Hose outside of diked containment area of Tank 3TA004 was not labeled (see Photograph P1110693).
- An activation/shutoff switch for the tanker off-loading process was located near scrubber 14SCB101, approximately 20 feet and across steps from the off-loading process. This switch did not have appropriate visual indicators (i.e., warning lights) of proper material transfer near the tanker off-loading area (see Photograph P1110704).
- Oleum scrubber water drums were not stored in secondary containment, provided with appropriate bump protection, or labeled as empty/in-use. Additionally, these drums were stored under an elevated platform egress route (see Photographs P1110709 and P1110713).
- Tank 3TA102 appeared to be rusting and there was visible corrosion observed at the top of the tank. Site representatives noted this is rusting seeping from the above elevated carbon steel platform (see Photograph P1110717).
- The Tank 14 A, B and F containment pump piping was not capped. Caps were chained to the pipes but not properly placed on the open ends of the pipes (see Photographs P1110717, P1110722, and P1110727).
- The tops of tanks 3TA101 and 3TA102 had ports for entry but lacked proper confined space signage and tie in points for entry (see Photograph P1110731 and P1110748).
- Piping near tanks 3TA101 and 3TA102 did not have proper labeling (see Photograph P1110740, P1110771, and P1110782).
- Oleum piping above tank 3TA101 had corrosion present on the tank saddle (see Photograph P1110771).
- Some areas of piping coming from tank 3TA101 had corrosion and flaking of paint on flanges (see Photograph P1110753 and P1110758).
- The nitrogen blankets on tanks 3TA101 and 3TA102 were not properly labeled to provide a warning of asphyxiation hazards in the case of a nitrogen leak.
- The top of tank 2DEC402 had a flanged port that swung open to observe the level in the tank. The flanged port does not have proper labeling for confined space or a tie in point for entry (see Photograph P1110777).
- Visual alarms for lower explosive limit (LEL) (yellow flashing light) and fire (red flashing light) were outside of Building 3 near the tanker off-loading area; however, audible alarms were not present to alarm for either condition. Additionally, the fire alarm was not labeled (see Photograph P1120007).

- Drums were stored outside of Building 2 without secondary containment and/or labeling for empty drums.

Building 3

The EPA inspection team toured Building 3, the Sulfonation Building. Entering from the southern side of the Building, near Tanks 3TA103 and 3TA201, the team toured around the sulfonation reactor tanks. Oleum is transferred from the Tanker Offloading trucks, 3TA101 and 3TA102, to one of the two charge tanks, 3TA102 (316-gallons) used for oleum for single sulfonation reactions and 3TA201 (561-gallons) which stores oleum used for double sulfonation reactions, via a submersible pump mounted inside the storage tanks. This transfer operation is controlled using the DCS at a Siemens APACS operator workstation in Building 3. Oleum is then transferred to one of the two sulfonation reactors, 3RE104 and 3RE202 using a double diaphragm pump at a rate of 1.0 gpm. The diaphragm pumps are designed with leak detection that interlocks the charging sequence if a pump failure is detected. For the sulfonation process, oleum is injected into the suction side of the recirculating pump and heat is removed with a side arm heat exchanger. The vapor venting for the oleum charge system is ballasted from tank to tank where possible and discharged through a scrubber to remove sulfur trioxide gas and sulfuric acid mist. The EPA inspectors identified the following areas of concern based on the tour of the area:

- A steam valve near Tanks 3TA201 and 3TA103 was leaking and standing water was present in the diked area surrounding the tanks (see Photograph P1110810 and P1110813).
- The diked containment area under Tanks 3TA201 and 3TA103 contained patched concrete and lacking appropriate sealant/protective coating (see Photographs P1110813, P1110818, and P1110823).
- Tanks 3TA201 and 3TA103 did not appear to be bolted into the concrete. Site representatives indicated the concrete was poured around the footings, but this needs to be verified with equipment drawings (see Photograph P1110810 and P1110823).
- Piping was present above the door to enter Building 3, which could result in a personnel injury if a spill were to occur from above.
- Piping was not properly labeled in Building 3.
- A hose connected to tank 3EW105 did not have documentation for proper inspection and maintenance (see Photograph P1110833).
- A foam and a water fire protection system and extinguishers were present in Building 3, though the reactors in the buildings indicated that the contents could not contact water. All fire protection system should be analyzed to ensure that proper fire protection is provided, and the agent does not present additional hazards to the chemicals stored within the building (see Photographs P1110843, P1110995, and P1110998).
- A hydrogen peroxide drum and other chemical drums were present in Building 3 without secondary containment (see Photograph P1110836).

- A flammables container was stored on top of a drum of formula 50 (see Photographs P1110836 and P1110839).
- An SCBA was stored in Building 3 and contained a mask. The mask did not appear to be assigned to specific personnel and therefore would not be sufficient for any personnel as masks must be fit tested. Additionally, recharges and inspections appear to be inconsistent (see Photographs P1110848 and P1110852).
- A hazardous waste drum was present in Building 3 and was not stored in secondary containment, and indications of spills were present in front of the drums (see Photographs P1110857).
- The wheeled fire extinguisher in Building 3 was not provided adequate clearance space to allow for movement in the building.
- Sulfuric dioxide monitors provided audio alarms for high levels but not visual alarms (see Photographs P1110885).
- Hot boxes outside of Building 3 do not have labels, signage, or documentation to indicate contents (see Photograph P1110913).
- Two DSA/IBA water totes were not stored in secondary containment near Building 3.

Storage Areas near Building 5

The EPA inspection team toured outside of Building 3, on the east side of Building 4, and the south side of Building 5, where inspectors observed a flammable drum storage container and a plastic storage shed with hoses and maintenance tools. South of Building 5 was a fenced in area containing Nitrogen Tank 4TA800 and a spill prevention, control, and countermeasure (SPCC) basin for collection and treatment of rainwater and spilled materials. The EPA inspectors identified the following areas of concern based on the tour of the area:

- Tank 99TA301 was not properly labeled such that labeling was visible from all possible directions of approach.
- Facility personnel were unable to confirm that hoses stored in the plastic storage bin near Building 5 were being tested as part of the Facility's hose program (see Photographs P1110925 and P1110935).
- Significant ice build-up was observed on piping and potential isolation valves associated with Tank 4TA800 (see Photographs P1110939 and P1110944).
- There is only one egress route out of the fenced area surrounding Tank 4TA800, and the egress gate did not appear to be equipped with panic hardware (see Photograph P1110939).

Tank Farm 2 and Surrounding Area

The EPA inspection team toured south of Building 5 and east of the Nitrogen Tank to Tank Farm 2. The EPA inspectors identified the following areas of concern based on the tour of the area:

- Sand and salt mix was seen onsite and was not reported on Tier II forms.

Building 6

The EPA inspection team toured Building 6, the Waste Treatment Building, west of Tank Farm 2 and South of Building 3. The EPA inspectors identified the following areas of concern based on the tour of the area:

- Multiple doors were observed to be lacking appropriate NFPA diamonds of the most hazardous chemical stored in that building (see Photograph P1110992).
- Building 6 Annex North did not contain atmospheric sulfur dioxide monitoring.
- Police tape was placed under tank 3DEC106 to act as a permanent bump protection in association with the fire protection nozzle below the tank.

Building 1 and Area behind Building 8

The EPA inspection team walked between Buildings 2 and 4 and turned west towards Building 1, Warehouse Complex. Tour of Building 1 began at the loading dock near the site entrance. Building 1 is used for shipping, receiving, and storage of products and raw material. The inspection team then walked to the north end of Building 1 and out the back entrance. The team walked behind building 8, where golf carts were stored and charged. The team observed two storage sheds and one chemicals storage locker behind (on the east side of) Building 8. On the northside of Building 8 were mixed drums, chemicals, and compressed gases storage, as well as storage of maintenance equipment. The EPA inspectors identified the following areas of concern based on the tour of the area:

- In the drum storage area in Building 1, the diesel fuel storage area was lacking appropriate fire labeling.
- The drum storage area in Building 1 did not provide appropriate 36 inches of egress between stacked rows of drums. Additionally, some of the stacked drums appeared to be stacked closely to the fire protection piping above (see Photograph P1120010).
- Tier II chemicals were not being reported under the appropriate names as detailed on SDSs.
- Gasoline and diesel for maintenance equipment were improperly stored in a shed behind Building 8 (see Photograph P1120013).
- The chemical cabinet behind Building 8 was labeled for corrosives and flammables. The Facility should ensure that all chemicals stored in the same chemicals storage area are compatible.
- The fire alarm box on the outside of the chemical cabinet behind Building 8 was equipped with an audible alarm but not a visual alarm. Additionally, it was not clear if the alarm system was regularly tested (see Photograph P1120014).
- Multiple golf carts were seen on-site; however, lead acid batteries were not identified on the Tier II form (see Photographs P1120012 and P1120015).

- Compressed gas storage racks behind Building 8 were not properly labeled with empty/full labeling and appropriate NFPA diamonds (see Photographs P1120016, P1120017, P1120018, P1120019, P1120023, and P1120024).
- Compressed gas storage racks behind Building 8 were not properly secured to the ground and tanks within were not properly secured within the cabinets (see Photographs P1120016, P1120017, P1120018, P1120019, P1120023, and P1120024).
- Oxygen was improperly stored near other gases (see Photograph P1120018).
- Access was impeded to the acetylene storage cabinet (see Photograph P1120022).
- Compressed gases were stored next to a transformer. Inspectors questioned if an arc flash study had been conducted for this storage location (see Photograph P1120020).

Building 9

Lastly, the EPA inspection team toured Building 9 Warehouse. Raw materials and products are segregated and stored in Building 9. A fenced in area near the concrete ramp at the building entrance serves as a hydrogen peroxide storage area. The EPA inspectors identified the following areas of concern based on the tour of the area:

- Hydrogen peroxide storage gate did not contain panic hardware (see Photograph P1120026).
- The closest eyewash and shower station (EWSS) to the hydrogen peroxide storage area was outside of Building 9. An EWSS should be provided inside of the building.
- A formaldehyde drum stored in Building 9 appeared to be under stress (crushed on one side) (see Photograph P1120028).
- A chemical drum stored in Building 9 appeared to be damaged but was not in secondary containment (see Photograph P1120029).

OUT-BRIEF/CLOSING CONFERENCE

Inspector Wallace scheduled and concluded the inspection with a virtual out-brief Microsoft Teams meeting with facility representatives on March 16, 2023 and discussed the preliminary areas of concern identified during the inspection.

The following areas of concern were identified during the out-brief and sent to the Facility via e-mail on March 16,2023:

A storm drain near the entrance was identified as bypassing the industrial wastewater treatment process and presents a risk of release to the environment if a spill were to occur near the truck entrance (see photograph P1110563).

Two transformers near the truck entrance gate lacked proper labeling in relation to polychlorinated biphenyl (PCB) oil status (see photograph P1110573; photograph P1110624 shows a transformer with proper PCB oil labeling).

Transfer hoses near Tank Farm 4 were not labeled as flame-resistant (see photograph P1110578 and P1110583).

Piping near and leading to transfer hoses near Tank Farm 4 were not properly labeled (see photograph P1110578 and P1110587).

A tank in Tank Farm 4 (between Tanks 2TA001 and 2TA101) was unlabeled (see photograph P1110593).

Near Tank Farm 4, drums were stored on the ground outside of secondary containment and some drums were unlabeled.

Near Tank Farm 4, drums of Heptane were stored on a wooden pallet on top of secondary containment (see photograph P1110599).

Secondary containment near Tank Farm 4 contained an unidentified standing liquid (see photograph P1110599).

Across from Tank Farm 4 near a parked trailer, drums were not stored on secondary containment and some drums lacked proper labeling (see photograph P111603).

Across from Tank Farm 4, wooden pallets were stored in close proximity to drums of chemicals and were not provided proper fire protection separation distance (see photograph P1110608).

Across from Tank Farm 4, a chemicals storage trailer was used for ammonium chloride, naphthalene, and triflic acid storage. Inspectors noted the possibility of chemical incompatibilities and the confusing signage along the outside of the trailer that did not indicate storage location within the trailer (see photograph P1110613).

CAMEO Chemicals Reactivity show two of chemicals in the Chemical Storage trailer are incompatible. The third Chemical Triflic Acid is not in the CAMEO Chemicals data base.

	NAPHTHALENE
ALUMINUM CHLORIDE, ANHYDROUS	Incompatible ■ Corrosive Generates gas Generates heat Intense or explosive reaction Toxic

The equipment surrounding the tanker off-loading area did not have adequate bump protection (see photographs P1110630, P1110634, P1110662, and P1110671).

The nitrogen hose and piping for the pressurization system for tanker off-loading was not properly labeled with material or as pressurized (see photograph P1110639 and P1110645).

Labeling of 66° Sulfuric Acid piping and tanks did not provide the concentration percentage (see photograph P1110649 and P1110671).

Transfer piping near tanker off-loading area was not properly labeled (see photograph P1110652 and P1110657).

Wooden box covering a pump and plastic storage box next to tanker off-loading area was not fire-proof and did not have adequate bump protection (see photograph P1110662).

The diked containment area near the tanker off-loading area contained patched concrete lacking appropriate sealant/protective coating (see photographs P1110676 and P1110696).

The diked containment area next to the tanker off-loading area contained an unlabeled tank (see photograph P1110676).

The unlabeled tank in diked containment area next to tanker off-loading area had corrosion on the footings (see photograph P1110676, P1110700, and P1110736).

Base of Tank 3TA004 appeared to have minor rusting and had less than 6 inches of concrete clearance past the bolted footing (see photograph P1110680).

Green cover of grounding wire appeared to be degrading (see photograph P1110680).

Tanker grounding Scully system was not interlocked to the tanker off-loading process (see photograph P1110685).

Unlabeled piping next to Tank 14SCB201 appeared to be leaking (see photograph P1110689).

Hose outside of diked containment area of Tank 3TA004 was not labeled (see photograph P1110693).

An activation/shutoff switch for the tanker off-loading process was near scrubber 14SCB101, approximately 20 feet and across steps from the off-loading process. This switch does not have appropriate visual indicators near the tanker off-loading area (see photograph P1110704).

Oleum scrubber water drums were not stored in secondary containment, were not provided with appropriate bump protection, and were not labeled as empty, in-use, etc. Additionally, these drums were stored under an elevated platform egress route (see photographs P1110709 and P1110713).

Tank 3TA102 appeared to be rusting/corrosion from top of the tank. Site representatives noted this is rusting from the above elevated carbon steel platform (see photograph P1110717).

Tank 14 A, B and F containment pump pumping was not capped. Caps were chained to the pipes but not properly placed on the ends of the pipes (see photograph P1110717, P1110722, and P1110727).

The tops of tanks 3TA101 and 3TA102 had ports for entry but lacked proper confined space signage and tie in points for entry (see photograph P1110731 and P1110748).

Piping near tanks 3TA101 and 3TA102 did not have proper labeling (see photograph P1110740, P1110771, and P1110782).

Oleum piping above tank 3TA101 had corrosion present on the tank saddle (see photograph P1110771).

Some areas of piping contained coming from tank 3TA101 had corrosion and flaking of paint on flanges (see photograph P1110753 and P1110758).

The nitrogen blankets on tanks 3TA101 and 3TA102 were not properly labeled to provide a warning of asphyxiation hazards in the case of a nitrogen leak.

The top of tank 2DEC402 had a flanged port that is swung open to observe the level in the tank. Port does not have proper labeling for confined space or a tie in point for entry (see photograph P1110777).

A steam valve near Tanks 3TA201 and 3TA103 was leaking and standing water was present in the diked area surrounding the tanks (see photograph P1110810 and P1110813).

The diked containment area under Tanks 3TA201 and 3TA103 contained patched concrete and lacking appropriate sealant/protective coating (see photographs P1110813, P1110818, and P1110823).

Tanks 3TA201 and 3TA103 did not appear to be bolted into the concrete. Site representatives indicated the concrete was poured around the footings, but this needs to be verified with equipment drawings (see photograph P1110818 and P1110823).

Piping was present above the door to enter Building 3, which could result in a personnel injury if a spill were to occur from above.

Piping was not properly labeled in Building 3.

A hose connected to tank 3EW105 did not have documentation for proper inspection and maintenance (see photograph P1110833).

A foam and a water fire protection system and extinguishers were present in Building 3, though the reactors in the buildings indicated that the contents could not contact water. All fire protection system should be analyzed to ensure that proper fire protection is provided, and the agent does not present additional hazards to the chemicals stored within the building (see photographs P1110843, P1110995, and P1110998).

A hydrogen peroxide drum and other chemical drums were present in Building 3 without secondary containment (see photograph P1110835).

A flammables container was stored on top of a drum of formula 50 (see photographs P1110835 and P1110839).

An SCBA was stored in Building 3 and contained a mask. The mask did not appear to be assigned to specific personnel and therefore would not be sufficient for any personnel as masks must be fit tested. Additionally, recharges and inspections appear to be inconsistent (see photographs P1110848 and P1110852).

A hazardous waste drum was present in Building 3 and was not stored in secondary containment, and indications of spills were present in front of the drums (see photographs P1110857).

The wheeled fire extinguisher in Building 3 was not provided adequate circulation space to allow for movement in the building.

Sulfuric dioxide monitors provided audio alarms for high levels but not visual alarms (see photographs P1110885).

Hot boxes outside of Building 3 do not have labels, signage, or documentation to indicate contents (see photograph P1110913).

Tank 99TA301 was not properly labeled such that labeling was visible from all possible directions of approach.

Facility personnel were unable to confirm that hoses stored in the plastic storage bin near Building 5 were being tested as part of the Facility's hose program (see photographs P1110926 and P1110935).

Significant ice build-up was observed on piping and potential isolation valves associated with Tank 4TA800 (see photographs P1110939 and P1110944).

There is only one egress route out of the fenced area surrounding Tank 4TA800, and the egress gate did not appear to be equipped with panic hardware (see photograph P1110939).

Sand and salt mix was seen onsite and was not reported on Tier II forms.

Two DSA/IBA water totes were not stored in secondary containment near Building 3.

Multiple doors were observed to be lacking appropriate NFPA diamonds of the most hazardous chemical stored in that building (see photograph P1110992).

Building 6 Annex North did not contain atmospheric sulfur dioxide monitoring.

Police tape was placed under tank 3DEC106 to act as a permanent bump protection in association with the fire protection nozzle below the tank.

Visual alarms for LEL (yellow flashing light) and fire (red flashing light) were outside of Building 3 near the tanker off-loading area; however, audible alarms were not present to alarm for either condition. Additionally, the fire alarm was not labeled (see photograph P1120007).

Drums were stored outside of Building 2 without secondary containment and/or labeling for empty drums.

In the drum storage area in Building 1, the diesel fuel storage area was lacking appropriate fire labeling.

The drum storage area in Building 1 did not provide appropriate 36 inches of egress between stacked rows of drums. Additionally, some of the stacked drums appeared to be stacked closely to the fire protection piping above (see photograph P1120010).

Tier II chemicals were not being reported under the appropriate names as detailed on SDSs.

Gasoline and diesel for maintenance equipment were improperly stored in a shed behind Building 8 (see photograph P1120013).

The chemical cabinet behind Building 8 was labeled for corrosives and flammables.

The fire alarm box on the outside of the chemical cabinet behind Building 8 was equipped with an audible alarm but not a visual alarm. Additionally, it was not clear if the alarm system was regularly tested (see photograph P1120014).

Multiple golf carts were seen on-site; however, lead acid batteries were not identified on the Tier II form (see photographs P1120012 and P1120015).

Compressed gas storage racks behind Building 8 were not properly labeled with empty/full labeling and appropriate NFPA diamonds (see photographs P1120016, P1120017, P1120018, P1120019, P1120023, and P1120024).

Compressed gas storage racks behind Building 8 were not properly secured to the ground and tanks within were not properly secured within the cabinets (see photographs P1120016, P1120017, P1120018, P1120019, P1120023, and P1120024).

Oxygen was improperly stored near other gases (see photograph P1120018).

Access was impeded to the acetylene storage cabinet (see photograph P1120022).

Compressed gases were stored next to a transformer. Inspectors questioned if an arc flash study had been conducted for this storage location (see photograph P1120020).

Hydrogen peroxide storage gate did not contain panic hardware (see photograph P1120026).

The closest eyewash and shower station (EWSS) to the hydrogen peroxide storage area was outside of Building 9. An EWSS should be provided inside of the building.

A formaldehyde drum stored in Building 9 appeared to be under stress (crushed on one side) (see photograph P1120028).

A chemical drum stored in Building 9 appeared to be damaged but was not in secondary containment (see photograph P1120029).

FACILITY COMPLIANCE STATUS AND ELEMENTS OF PROOF – EPCRA,

EPCRA Section 302

(1) Does facility have on-site, at any one time, extremely hazardous substances (EHSs) at or above the TPQ? Yes.

(2) List or obtain documentation: Inspectors' observations; RY2018 - RY2020 Tier II Reports and revised RY2022 Tier II report

(3) How was maximum quantity on-site determined or calculated? Companies Maximum inventory calculations: for AQUA AMMONIA 26 DEGREES, C ACID (Sulfuric Acid), FORMALDEHYDE 37%MEOH INHIBITED, Hydrogen Peroxide, aq 35%, Lead acid batteries (Sulfuric Acid), NACURE XC-235 (Phenol), Oleum, SPENT ACID (Sulfuric Acid), SULFURIC ACID 66 Baume

EPCRA Section 303

(1) Facility Coordinator identified per Sec. 303 and date LEPC was notified?

Facility coordinator identified in RY2022 Tier II as Richard Byrnes (submitted on 03/15/2023).

EPCRA Section 311

(1) Is facility required to maintain MSDSs under the OSHA Hazard Communication Standard 29 CFR 1910.1200 (no specific chemical list)? Yes

(2) Has the facility conducted a comprehensive audit to identify MSDS chemicals on-site and to determine if 500 lb./10,000 lb./TPQ thresholds were exceeded?

At the time of the inspection Unknown.

(3) List of OSHA chemicals manufactured, processed, used/stored, and obtained? Unknown

(4) How were the maximum amounts determined? Unknown

(5) Section 311 info supplied to the:

SERC (Y/N): Unknown.

LEPC (Y/N): Unknown.

Local Fire Department(Y/N): Unknown.

Date Unknown.

Chemical List Unknown.

MSDSs Unknown.

(6) Have any new hazardous chemicals, mixtures, or substances been introduced into the facility in the last 5 years? Unknown.

(7) If yes, has the facility submitted updated lists or SDSs? Unknown.

EPCRA Section 312 (due March 1 of year following reporting calendar year)

(1) Was Tier II form submitted for all required chemicals? No.

(2) What procedures are used to update Section 312 information for annual submittal and to ensure additional or new chemical data is submitted within 90 days? Facility has previously submitted Tier II reports to SERC, LEPC, and Fire Department annually via electronic submission.

(3) Was facility aware of annual reporting requirements under Section 312? Yes.

(4) Had the facility completed and signed a list of all reportable chemicals on site on date of the inspection? Unknown.

(5) Table of EPCRA 312 Reportable Substances:

	Chemical	Approx. Max. Wt. on Site (Lbs.)	TPQ (Lbs.)	Approx. Ratio (Actual/TPQ)

Original 2022 Tier 2 form only report 113 items.

Revised 2022 Tier 2 form March 15, 2023, reported 178 items.

Chemical Name	CAS	EHS ⓘ	Maximum Amount (Pounds)
2-ETHYL HEXANOIC ACID	149-57-5	No	14,921
Activated carbon	7440-44-0	No	11,600
ALOX 152/CR 6065		No	30,576
ALUMINUM CHLORIDE - DRUM	7446-70-0	No	21,000
ANSUL AR-NFF 3X3 BULK BLEND (GREEN FOAM)		No	62,882
AQ. AICI3 (30%)		No	96,639
AQUA AMMONIA 26 DEGREES		Yes	4,211
AROMATIC 100	64742-95-6	No	12,609
AROMATIC 150	64742-94-5	No	33,440
ASA 100/TEXALENE 2560		No	65,880
BARIUM MONOHYDRATE	22326-55-2	No	42,569
BISMUTH TRIOXIDE	1304-76-3	No	24,466

BONDOGEN E		No	13,059
BSN/Heptane		No	264,833
BUTYL CELLOSOLVE/"EB"	111-76-2	No	39,600
C ACID		Yes	173,289
CALCIUM HYDROXIDE LIME	1305-62-0	No	55,089
CARBON DIOXIDE	124-38-9	No	11,020
CAUSTIC SODA 20% LIQUID		No	100,852
CAUSTIC SODA 50% LIQUID		No	178,420
CHDM-D	105-08-8	No	91,734
COMPONENT NO. 5898		No	10,920
COMPONENT NO. 820		No	22,440
COMPONENT NO.2560		No	21,840
CORSOL 40	64742-53-6	No	24,400
CSN/Heptane		No	353,828
DAPRAPHOS 301	68603-55-4	No	25,053
DDBSA - BIOSOFT OR UFACID KI	68584-22-5	No	54,023
DER 331/ARALDITE GY 6010	25085-99-8	No	10,833
DI ETHYL ETHANOL AMINE (DEEA)	100-37-8	No	11,475
DI-2-ETHYL HEXCYL AMINE	106-20-7	No	10,980
DI-ISOPROPANOLAMINE 85%		No	14,941
DIEXTER-G 1100-225		No	16,500
DISPARLON 6500		No	17,600
DISPARLON 6900-20X		No	10,005
DME		No	24,750
DODECENE LAO - C12	112-41-4	No	61,504
DODECENYL SUCCINIC ANHYDRIDE	26544-38-7	No	28,717
Dry ice	124-38-9	No	12,000
DSA/IBA		No	269,720
DYTEK A	15520-10-2	No	16,683
ETHOX 2989	68186-45-8	No	36,000
ETHOX 4729	12645-31-7	No	17,286
Ethylene diamine	107-15-3	Yes	3,247
FORMALDEHYDE 37%MEOH INHIBITED		Yes	8,174
HEPTANE	64742-49-0	No	508,326
HEXA/OCTODECENE LAO - C16/18		No	63,244
HYDROGEN PEROXIDE 35%		Yes	25,802
HYFLO SUPER CEL	68855-54-9	No	25,865
IPAC 2510		No	11,760
IPAC 2515		No	17,200

ISOBUTANOL	78-83-1	No	130,460
ISOPROPANOL	67-63-0	No	95,051
JALPON 1761		No	21,560
K-CORR 100		No	11,140
K-CORR G-1086A		No	18,480
K-CORR G-1107		No	12,155
K-CORR G-1350		No	17,640
K-CORR NF-200		No	19,820
K-CORR SA-300		No	18,520
K-FLEX 171-90		No	37,350
K-FLEX UD-320		No	11,250
K-KAT 348		No	12,345
K-KAT XK-629		No	10,540
K-SPERSE 131		No	10,791
K-SPERSE 152		No	12,696
K-SPERSE 152MS		No	12,000
K-STAY 501		No	11,000
K-STAY 511		No	26,111
K-STAY 555		No	30,520
KX1138		No	12,760
KX1290		No	30,400
KX1292		No	21,600
KX1325		No	10,500
Lead acid batteries		Yes	15,422
LUBAD 1754		No	33,000
Magnesium sulfate	7487-88-9	No	36,000
METHANOL	67-56-1	No	157,300
METHYL ACETO ACETATE	105-45-3	No	14,024
MINERAL SPIRITS		No	46,090
N-BUTYL ALCOHOL	71-36-3	No	17,660
N-PROPANOL	71-23-8	No	12,222
NA-LUBE AO-210		No	15,170
NA-LUBE AW-6110		No	50,310
NA-LUBE AW-6310		No	13,800
NA-LUBE BL-1208		No	15,300
NA-LUBE BL-1232 EL		No	10,600
NA-LUBE BL-1300FG		No	26,454
NA-SUL 1019A		No	27,840
NA-SUL 437		No	17,160
NA-SUL 450		No	18,140

NA-SUL 611	No	79,200
NA-SUL 707	No	64,900
NA-SUL 729	No	209,000
NA-SUL 729/60	No	59,880
NA-SUL AS	No	19,780
NA-SUL BA-1292	No	23,400
NA-SUL BSB	No	125,928
NA-SUL BSN	No	146,300
NA-SUL BSN-HT	No	28,160
NA-SUL BSN/DOS	No	63,800
NA-SUL BSN/PAO	No	64,020
NA-SUL CA-1082	No	29,120
NA-SUL CA-1089	No	162,800
NA-SUL CA-1122	No	24,780
NA-SUL CA-1183	No	32,680
NA-SUL CA-1259	No	24,360
NA-SUL CA-50	No	135,300
NA-SUL CA-HT/3	No	66,670
NA-SUL CA/60MS	No	10,320
NA-SUL CA/W1146	No	37,447
NA-SUL CA/W1177	No	12,040
NA-SUL CA/W1213	No	42,037
NA-SUL CA/W1745	No	14,080
NA-SUL CA/W1935	No	17,640
NA-SUL CA/W780-E30	No	12,180
NA-SUL EDS	No	15,120
NA-SUL MG	No	66,330
NA-SUL MG-HT	No	61,220

NA-SUL SS		No	67,980
NA-SUL TEA/LB		No	15,460
NA-SUL ZS		No	70,375.8
NA-SUL ZS-HT		No	18,200
NACORR 1151		No	16,511
NACORR 1551		No	12,000
NACORR 1652		No	13,600
NACURE 1051		No	71,467
NACURE 115		No	20,580
NACURE 1323		No	42,000
NACURE 1419		No	20,185
NACURE 155		No	61,320
NACURE 1557		No	20,400
NACURE 1953		No	10,800
NACURE 2107		No	23,274
NACURE 2500		No	48,300
NACURE 3525		No	22,880
NACURE 4167		No	28,645
NACURE 5076		No	25,633
NACURE 5225		No	37,980
NACURE 5528		No	14,835
NACURE 5925		No	13,495
NACURE X49-110		No	23,980
NACURE XC-235		Yes	11,280
NACURE XC-300		No	13,713
NACURE XC-4208		No	44,000
NACURE XC-6206		No	28,400
NACURE XC-C203		No	14,437
NACURE XP-221		No	27,201
NAPHTHALENE	91-20-3	No	184,470
NEODECANOIC ACID	26896-20-8	No	15,889
Nitrogen	7727-37-9	No	52,007
NONENE	68526-55-6	No	206,358
NOVAFLEX DIBM	14234-82-3	No	12,254
OLEUM	8014-95-7	Yes	230,000
P-ESTER C8/EPIPHOS C8		No	18,240
PAO 4	68037-01-4	No	19,931
PARA TOLUENE SULFONIC ACID	6192-52-5	No	37,004
PERLASTAN O	110-25-8	No	16,647
PRIMENE 81R, TAPA-81	68955-53-3	No	18,382

Propane	74-98-6	No	1,924
PROPYLENE CARBONATE	108-32-7	No	28,754
PTSA-IPA 60%		No	29,641
REOGEN E		No	14,175
Sand/salt Mixture		No	5,455
SPENT ACID		Yes	324,042
SULFURIC ACID 66 Baume		Yes	124,715
SUNPAR 107	64742-56-9	No	95,590
TETRADECENE LAO - C14	1120-36-1	No	61,334
TOMAMINE E-17-2 AMINE	223129-76-8	No	15,531
TRIETHYLAMINE TEA	121-44-8	No	11,928
TRIETHYLPHOSPHATE (TEP)	78-40-0	No	17,436
ULTRATECH 2077 AMINE		No	43,720
UNIDYME 22 (ALT IS EMERY2016)	61788-89-4	No	20,968
Universal Gold®C6 1%/3% Alcohol Resistant Aqueous Film Forming Foam Concentrate (AR-AFFF) PFAS		No	35,305
VANLUBE 727		No	11,506
WASHED SULFONIC ACID (WSA)		No	435,914
XYLENE/ETHYLBENZENE		No	41,030
ZINC OXIDE	1314-13-2	No	21,983

ENFORCEMENT HISTORY

There have been no other EPA inspections at the King Industries facility in Norwalk, CT in the past five years according to EPA's Enforcement and Compliance History Online (ECHO) System. EPA's ECHO System does not identify any historical noncompliance for the King Industries facility in Norwalk, CT.

ENVIRONMENTAL JUSTICE

EPA's ECHO System indicates that the King Industries facility in Norwalk, CT is in an area of Environmental Justice (EJ) interest based on 6 EJ Indices being above the 80th-percentile (national).

ATTACHMENT A

Google Earth Image of the King Industries Facility

