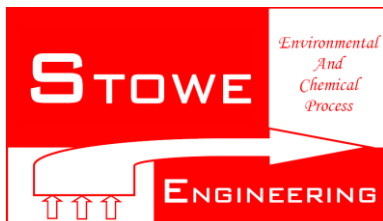


# 2022 NPRI - ANNUAL SUMMARY REPORT

Prepared for:  
**WEATHERSTRONG BUILDING PRODUCTS**  
37 Union Street, Smiths Falls, Ontario, K7A 4Z4



Attention: **Mark Boisclair, Plant Manager**  
Phone: **(613) 283-0999**  
Email: [mark90@kaycan.ca](mailto:mark90@kaycan.ca)



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## 1.0 SUMMARY

Weatherstrong (parent company Kaycan) paints aluminum sheet that is used to fabricate building products such as siding, soffits and trim. Large aluminum rolls are loaded on one end of the automated paint line and the strip is automatically fed through a paint application and a UV oven cure, before it is cured, dried, and rolled up at the exit of the line. The paint coatings contain VOC solvents that act as a carrier for paint being applied. VOC solvents are burned off during the oven curing through a natural gas catalytic oxidizer with ~ +96% efficiency to destroy VOCs volatilizing from the paint as it dries. Paint component concentrations vary depending on the paint supplier and colour being processed. Over +100 different paint colours are applied.

Order quantities were provided through production records. Coating composition specifications were provided through the paint suppliers and their respective Safety Data Sheets provided.

Notes:

- (i) The facility does not create solvents therefore, there is no plan to address reducing solvent creation.
- (ii) Prior to painting, chromic acid, containing hexavalent chrome is applied to prepare the surface. The liquid roll application is isolated within a recirculating system and the thin aqueous film dries on the surface prior to the paint roller application. There are no air emissions and the chrome pre-treatment applied either stays on the metal or remains in the application tank.

## 2022 REPORT SUMMARY

Part 1A Substances Limit = 10 tonnes MPO	ID#	MPO Qty (tonnes)	Reportable?	% to Air	Oxidizer Eff	Qty to Air (tonnes)
Butoxyethanol	111-76-2	37.7	YES	100.0%	0.96	1.51
Butyl alcohol	71-36-3	10.4	YES	100.0%	0.96	0.42
Trimethylbenzene	95-63-6	39.3	YES	100.0%	0.96	1.57
Xylene (all isomers) <sup>15</sup>	1330-20-7	17.5	YES	100.0%	0.96	0.70

MPO = Manufactured, Processed or Otherwise used

Part 1B Substances Limit = 50 kg MPO	ID#	MPO Qty (kg)	Reportable?	% Onto Product	Qty Product (kg)	% to Haz Waste	Qty Haz Waste (kg)
Hexavalent chromium (and its compounds) <sup>3</sup>	NA-46	577.2	YES	98%	565.6	2%	11.5

Part 5 - Substances - (Over 1 tonne release to air)	ID#	% to Air	Oxidizer Eff	Qty to Air (tonnes)	Reportable?
Butoxyethanol	111-76-2	100%	96.0%	1.51	YES
Trimethylbenzene	95-63-6	100%	96.0%	1.57	YES
Naphtha Light	64742-95-6	95%	96.0%	2.78	YES
Naphtha Medium	64742-94-5	100%	96.0%	2.42	YES

## 2.0 OBJECTIVE

Weatherstrong strives to minimize waste and optimize the use of paints, efficiently preventing excessive emissions by using a catalytic oxidizer maintained to support a highly efficient destruction rate.

### 2.1 TARGETS

- (i) To improve spill containment strategies on site;
- (ii) To optimize energy consumption relating to paint line operations.

## 3.0 DESCRIPTION OF THE TOXIC SUBSTANCE

All paints contain Volatile Organic Compounds (VOCs) to varying percentages depending on the formulation. There are over 200 different paint formulations. Based on the annual paint use, the chemicals tabled met the NPRI reporting threshold.

A pre-treatment chemical contains hexavalent chrome which meets the 50 kg reporting threshold requirement.

Reducing toxics is difficult because the organization has no control over the paint formulation. The paint-roll transfer application is efficient with minimal waste as no paint is atomized.

## 4.0 FACILITY INFORMATION

**Name:** Weatherstrong Building Products, 37 Union Street, Smiths Falls, Ontario, K7A 4Z4  
**NPRI #:** 0000005703  
**NAICS Code:** 332810  
**# of Full-time Employees:** 32  
**UTM Coordinates (NAD83):** Latitude 44.9125, Longitude -76.0220

### 4.1 Owner/Contact of the Facility Information

**Contact:** Mark Boisclair, Plant Manager, Weatherstrong Building Products  
**Address:** 37 Union Street, Smiths Falls Ontario, K7A 4Z4  
**Phone:** (613) 283-0999  
**E-mail:** [mark90@kaycan.ca](mailto:mark90@kaycan.ca)

### 4.2 Operator of the Facility Information

**Name:** Mark Boisclair, Plant Manager, Weatherstrong Building Products  
**Address:** 37 Union Street, Smiths Falls Ontario, K7A 4Z4  
**Phone Number:** (613) 283-0999

#### 4.3 Highest Ranking Employee at the Facility Information

**Name:** Mark Boisclair, Plant Manager, Weatherstrong Building Products

**Address:** 37 Union Street, Smiths Falls Ontario, K7A 4Z4

**Phone:** (613) 283-0999

**E-mail:** [Mark90@kaycan.ca](mailto:Mark90@kaycan.ca)

*This facility is a subsidiary of Kaycan Inc.*

#### 4.4 Parent Company Information

**Name:** Kaycan

**Address:** 3075 Trans Canada Hwy, Pointe Claire, Quebec, H9R 1B4

**Phone:** (613) 283-0999

**Percentage of Facility Owned by Company:** 100 per cent

**Business Number:** 102777612RC0001

#### 4.5 Plan Contacts

*Person Coordinating the Preparation of the Plan*

**Name:** Mark Boisclair, Plant Manager, Weatherstrong Building Products

**Address:** 37 Union Street, Smiths Falls Ontario, K7A 4Z4

**Phone:** (613) 283-0999

**E-mail:** [Mark90@kaycan.ca](mailto:Mark90@kaycan.ca)

#### 4.6 Person Who Prepared the Plan

**Name:** Doug Stowe P.Eng. CHMM

**Position:** Professional Engineer (Chemical)

**Address:** 211 Spring St., Almonte, Ontario K0A1A0

**Phone:** (613)256-9321

**E-mail:** [Doug@stowe-engineering.ca](mailto:Doug@stowe-engineering.ca)

#### 4.7 Public Contact

**Name:** Mark Boisclair, Plant Manager, Weatherstrong Building Products

**Address:** 37 Union Street, Smiths Falls Ontario, K7A 4Z4

**Phone:** (613) 283-0999

**E-mail:** [Mark90@kaycan.ca](mailto:Mark90@kaycan.ca)

#### 4.8 Technical Contact

**Name:** Doug Stowe P.Eng. CHMM

**Position:** Professional Engineer (Chemical)

**Address:** 211 Spring St., Almonte, Ontario K0A1A0

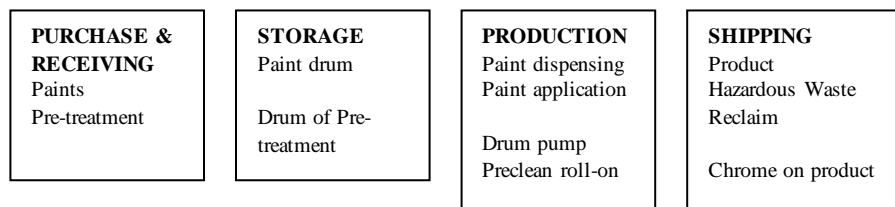
**Phone:** (613)256-9321

**E-mail:** [Doug@stowe-engineering.ca](mailto:Doug@stowe-engineering.ca)

## 5.0 STAGES AND PROCESSES THAT USE THE TOXIC SUBSTANCES

### 5.1 STAGES

The main stages for paint processing: Purchasing & Receiving, Storage, Production and Shipping. The substances are present in the first three stages.



### 5.2 Paint Line Description

Weatherstrong produces painted aluminum sheet for building applications.

Paint Line: Bare aluminum sheet is received at the plant warehouse in large rolls. A roll is loaded onto the feed station cradle at the start of the paint line and gradually uncoiled to feed through a series of processing stages. Initially the aluminum is cleaned and dried before it passes across a paint roller. Paint is applied both sides of the roll. A 'Backer' coating may be used if only one side is painted. The painted surfaces pass through a long, enclosed gas-heated drying oven that cures the paint onto the aluminum and releases any carrier solvents. The finished dry painted sheet is coiled up again at the opposite end of the line, removed from the cradle and packaged for shipment.

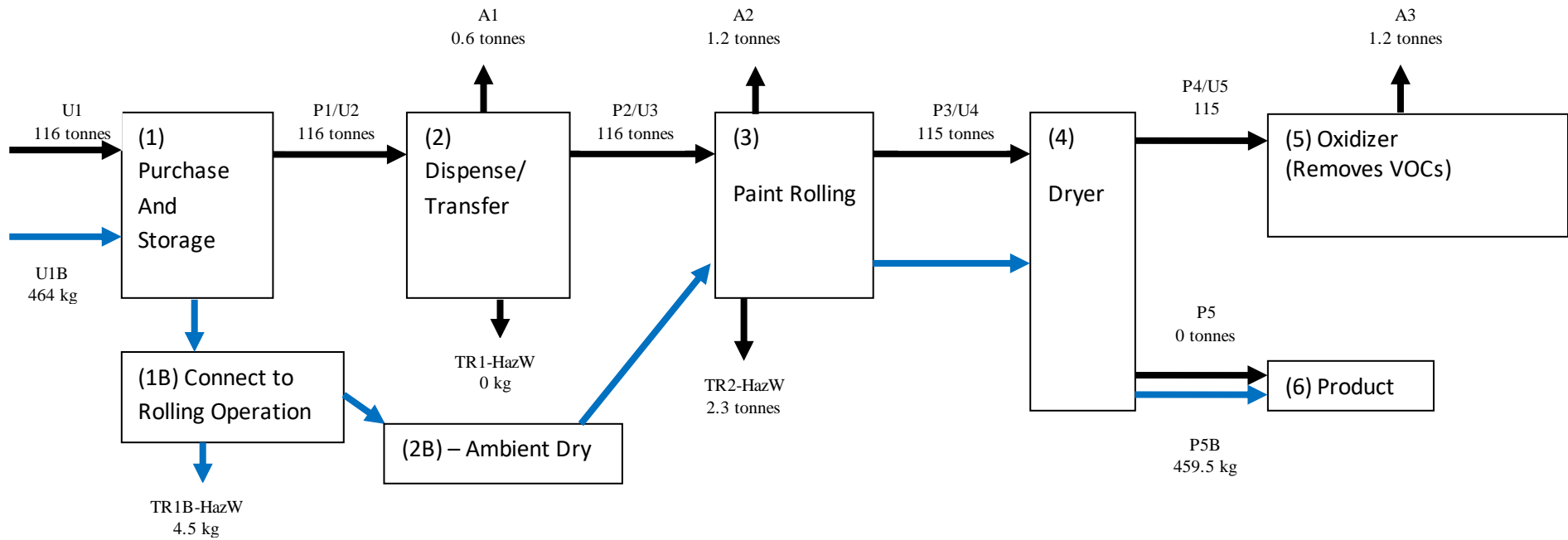
Solvent vapours emitted from the drying oven during production are treated through a high efficiency catalytic oxidizer with a destruction efficiency of ~ 96%.

Pre-treatment: contains chromic acid, which includes a small percentage of hexavalent chrome (VI). It is used from the supply drums and is connected to a recirculating system. The majority (~98%) of the chrome solution is applied to, and dries on, the surface of the aluminum.

Solvent Dispense: Solvent dispensing is done in an ancillary Solvent Dispense Room serviced with two wall mounted exhaust fans. Diacetone alcohol, Vansol and a recycled solvent made up of both these products are used to clean sections of the paint line. Solvents are dispensed into 20 litre containers and brought to the paint line for in-situ cleaning. Contaminated solvent solutions are brought back into the Solvent Dispense Room and decanted into a storage container for recycling and eventual shipment as hazardous waste.

## 6.0 FLOW CHARTS

### 6.1 Paint Line Process (Mass Balance based on 2020 Production)



LEGEND	
	Paint Line Process Components
	Chrome VI Process
U1	Solvent VOC Used
U1B	Chrome VI Used
P	Produced
TR	Toxic Waste Recycled or Hazardous Waste Disposal
A	Air Emission
Re	Reclaim
HazW	Hazardous Waste

DQL Data Quality Level = "Average"

## 6.2 NPRI Substances Summary

Part 1A Substances Limit = 10 tonnes MPO	ID#	Limit (tonnes)	UOM	MPO Qty (tonnes_	Reportable?	% Onto Product	Qty Product (tonnes)	% to Air	Oxidizer Eff	Qty to Air (tonnes)	% to Haz Waste	Qty Haz Waste (tonnes)
Butoxyethanol	111-76-2	10	tonnes	37.7	YES	0.0%	0.00	100.0%	0.96	1.51	0.0%	0.00
Butyl alcohol	71-36-3	10	tonnes	10.4	YES	0.0%	0.00	100.0%	0.96	0.42	0.0%	0.00
Trimethylbenzene	95-63-6	10	tonnes	39.3	YES	0.0%	0.00	100.0%	0.96	1.57	0.0%	0.00
Xylene (all isomers) <sup>15</sup>	1330-20-7	10	tonnes	17.5	YES	0.0%	0.00	100.0%	0.96	0.70	0.0%	0.00

MPO = Manufactured, Processed or Otherwise used

Part 1B Substances Limit = 50 kg MPO	ID#	Limit (kg)	UOM	Qty (kg)	Reportable?	% Onto Product	Qty Product (kg)	% to Air	Oxidizer Eff	Qty to Air (kg)	% to Haz Waste	Qty Haz Waste (kg)
Hexavalent chromium (and its compounds) <sup>3</sup>	NA-46	50	kg	577.2	YES	98%	565.6	0.0%	0.96	0	2%	11.5

Part 4 - Criteria Air Contaminants (CAC)	ID#	Limit (tonnes)	UOM	Qty (tonnes)	Reportable?
Carbon monoxide	630-08-0	20	tonnes	0.67	NO
Nitrogen oxides (expressed as nitrogen dioxide)	11104-93- 1	20	tonnes	3.36	NO
PM <sub>2.5</sub> <sup>22,23</sup>	NA - M10	0.3	tonnes	0.06	NO
PM <sub>10</sub> <sup>23,24</sup>	NA - M09	0.5	tonnes	0.06	NO
Sulphur dioxide	7446-09-5	20	tonnes	0.02	NO
Total particulate matter <sup>23,25</sup>	NA - M08	20	tonnes	0.06	NO
VOCs from combustion (natural gas)	NA - M16	10		0.46	NO



Part 5 - Substances - (Over 1 tonne release to air)	ID#	Qty [MPO]	% Onto Product	Qty Product (tonnes)	% to Haz Waste	Qty Haz Waste (tonnes)	% to Air	Oxidizer Eff	Qty to Air (tonnes)	Reportable?
Butoxyethanol	111-76-2	37.7	0%	0	0%	0.00	100%	96.0%	1.51	YES
Trimethylbenzene	95-63-6	39.3	0%	0	0%	0.00	100%	96.0%	1.57	YES
Naphtha Light	64742-95-6	73.1	0%	0	5%	3.66	95%	96.0%	2.78	YES
Naphtha Medium	64742-94-5	60.5	0%	0	0%	0.00	100%	96.0%	2.42	YES
Butyl Carbitol	112-34-5	20.6	0%	0	0%	0.00	100%	96.0%	0.83	NO
N-BUTANOL	71-36-3	14.6	0%	0	0%	0.00	100%	96.0%	0.58	NO
E BENZENE	100-41-4	3.2	0%	0	0%	0.00	100%	96.0%	0.13	NO
NAPHTH	91-20-3	9.9	0%	0	0%	0.00	100%	96.0%	0.40	NO
Trimethyl Benz	2551-13-7	7.1	0%	0	0%	0.00	100%	96.0%	0.28	NO

#### Year Over Year

Components	CAS	2020	2021	2022	% Change 2021-2022
Butoxyethanol	111-76-2	34.4	37.5	37.7	0.5%
Butyl alcohol	71-36-3	17.6	18.6	10.4	-44.1%
Trimethylbenzene	95-63-6	32.6	36.2	39.3	8.6%
Xylene (all isomers)15	1330-20-7	31.8	32.9	17.5	-46.8%

## 7.0 CONCLUSIONS

1. The calculations were based on paint consumption records and oxidizer efficiency.
2. Part 1A: Four substances were reported.
3. Part 2: hexavalent chrome is applied onto the product. Residual chrome is collected and shipped as hazardous waste through Anachemia.
4. Part 5 Speciated VOCs: This is the first year for reporting since the regulation was changed for 2022. The combined 10-tonne total VOC threshold was eliminated, and the new 1-tonne reporting threshold was created. This resulted in 4 new substance reports.
5. Positively, the overall quantity of VOCs has decreased specifically xylenes and butyl alcohol. This has been observed during production where less gas (lower temperature) is required. This resulted in lower emissions and lower energy use. This was the result of formulation changes in paint with the transition to the All-colour solmica formulas.

Regards,

A handwritten signature in blue ink, appearing to read 'Doug Stowe', is placed over a faint, light-colored rectangular stamp or watermark.

Doug Stowe P.Eng.  
President, Stowe Engineering