HOW TO FIND VOC INFORMATION FOR COATING OPERATIONS

WHAT INFORMATION DO I NEED TO FIND?

To complete a permit application for a coating operation, you must first find Volatile Organic Compound (VOC) information for all components in each coating you plan to use.

Each component has the following information:

VOC Actual – sometimes labeled ‘Material VOC’, ‘Total VOC’, or ‘Emitted VOC’

VOC Regulatory – sometimes labeled ‘VOC content less water and exempt compounds’, ‘VOC as applied’, or ‘VOC EPA Method 24’

Percent Water and Exempt Compounds

A complete application will have at least *two* of the above *three* pieces of information for EACH component used in the coating operation

WHERE CAN I FIND VOC INFORMATION?

The manufacturer of your coatings will usually have a variety of sources to find VOC information:

Material Safety Data Sheets (MSDS) or Safety Data Sheets (SDS)

Product Data Sheets (PDS)

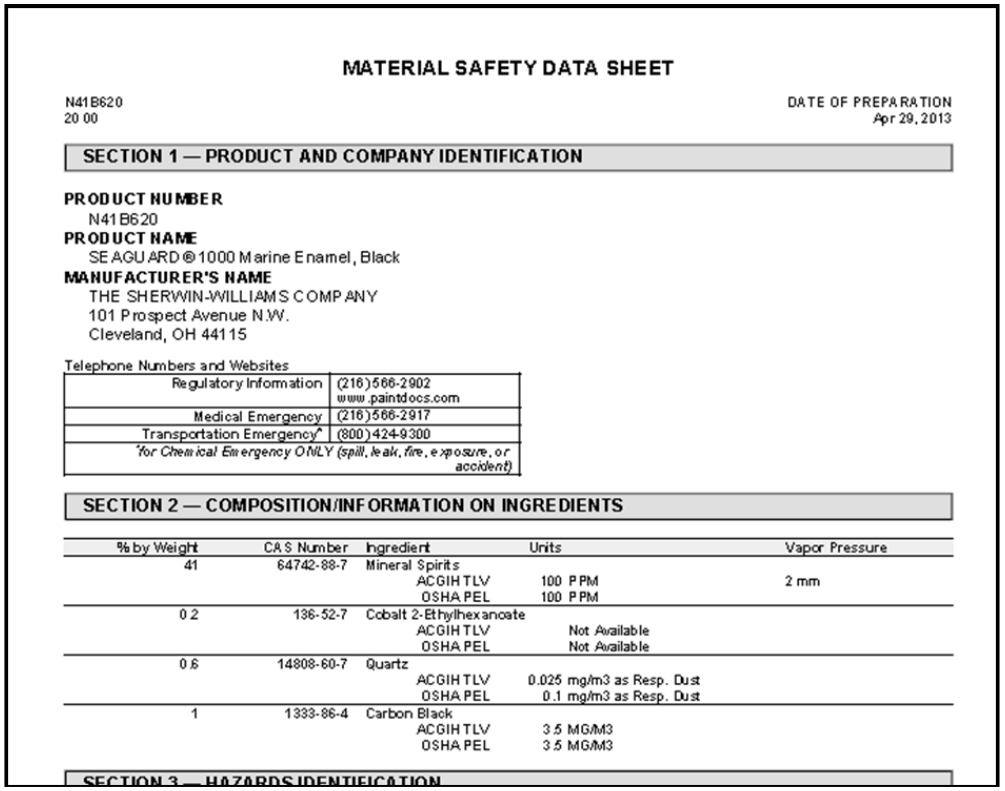
Environmental Data Sheets (EDS)

Product Label

Manufacturer's Website

Manufacturer's Technical Support Department

MATERIAL SAFETY DATA SHEETS (MSDS) OR SAFETY DATA SHEETS (SDS)



MATERIAL SAFETY DATA SHEET

N41B620
20 00

DATE OF PREPARATION
Apr 29, 2013

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER
N41B620
PRODUCT NAME
SEAGUARD® 1000 Marine Enamel, Black
MANUFACTURER'S NAME
THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, OH 44115

Telephone Numbers and Websites

Regulatory Information	(216) 566-2902 www.paintdocs.com
Medical Emergency	(216) 566-2917
Transportation Emergency^	(800) 424-9300
^for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)	

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

% by Weight	CAS Number	Ingredient	Units		Vapor Pressure
41	64742-88-7	Mineral Spirits			
		ACGIH TLV	100 PPM		2 mm
		OSHA PEL	100 PPM		
0.2	136-52-7	Cobalt 2-Ethylhexanoate			
		ACGIH TLV	Not Available		
		OSHA PEL	Not Available		
0.6	14808-60-7	Quartz			
		ACGIH TLV	0.025	mg/m3 as Resp. Dust	
		OSHA PEL	0.1	mg/m3 as Resp. Dust	
1	1333-86-4	Carbon Black			
		ACGIH TLV	3.5	MG/M3	
		OSHA PEL	3.5	MG/M3	

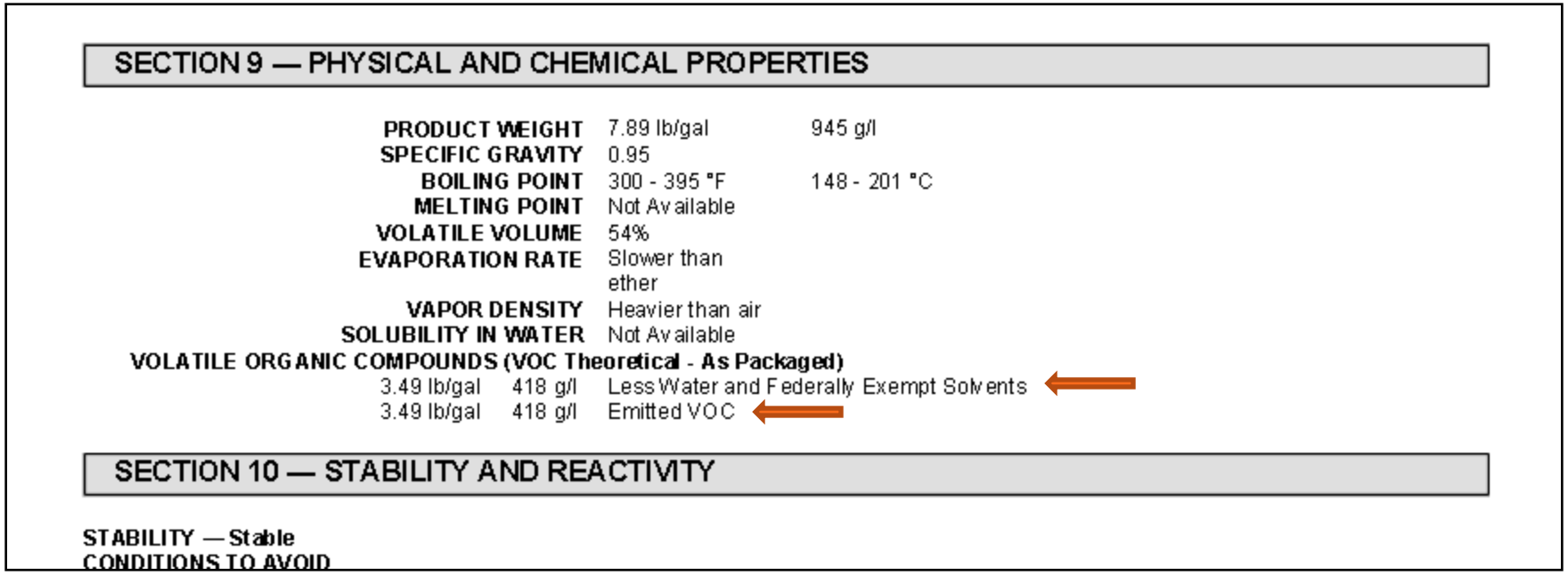
SECTION 3 — HAZARDS IDENTIFICATION

'MSDS' and 'SDS' refer to the same document. It contains a material's ingredient information, as well as ways to safely handle and store the material.

A MSDS or SDS typically also contains the VOC information you need. Start with this document. If a MSDS doesn't already come with the product when you purchase it, contact the manufacturer.

MATERIAL SAFETY DATA SHEETS (MSDS) OR SAFETY DATA SHEETS (SDS)

The *'Physical and Chemical Properties'* section of a MSDS or SDS will typically have VOC information. This is usually Section 9.



SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	7.89 lb/gal	945 g/l
SPECIFIC GRAVITY	0.95	
BOILING POINT	300 - 395 °F	148 - 201 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	54%	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	Not Available	

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)

3.49 lb/gal	418 g/l	Less Water and Federally Exempt Solvents
3.49 lb/gal	418 g/l	Emitted VOC

SECTION 10 — STABILITY AND REACTIVITY

STABILITY — Stable
CONDITIONS TO AVOID

VOC information can also be found in MSDS or SDS sections like:

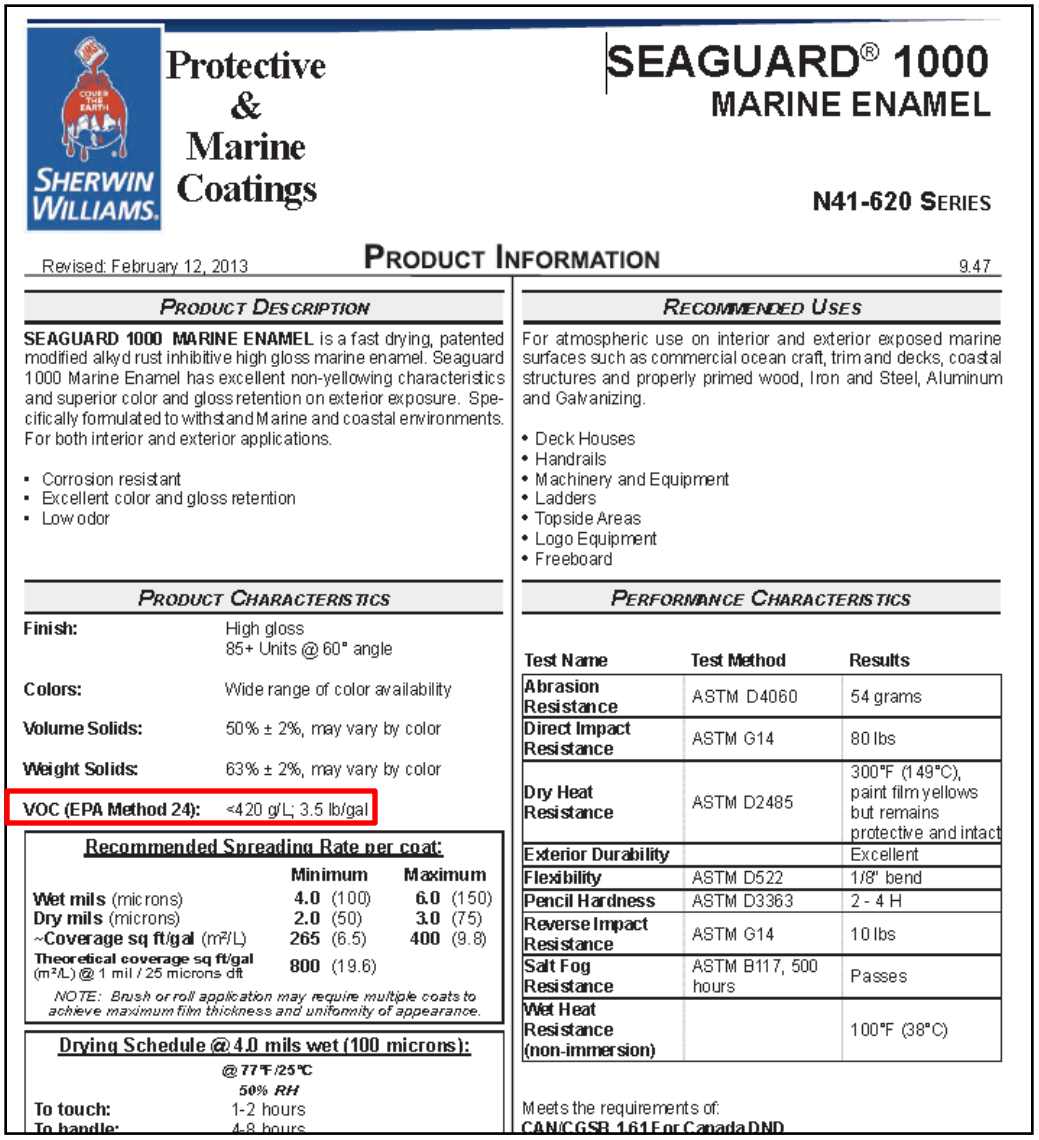
- *'Regulatory Information'* - usually Section 15 or 16
- *'Composition/Ingredient Information'* - typically found at the beginning of a MSDS or SDS
- *'Other Information'* - typically found at the end of a MSDS or SDS

PRODUCT DATA SHEETS (PDS)

A PDS is a document that gives an in-depth description of coating characteristics and its potential uses.

VOC information can typically be found in sections like ‘Product Characteristics’.

If your coating has more than one component, the PDS is typically a great resource of VOC information for the mixture



Protective & Marine Coatings

SEAGUARD® 1000
MARINE ENAMEL

N41-620 SERIES

Revised: February 12, 2013

PRODUCT INFORMATION

9.47

PRODUCT DESCRIPTION

SEAGUARD 1000 MARINE ENAMEL is a fast drying, patented modified alkyd rust inhibitive high gloss marine enamel. Seaguard 1000 Marine Enamel has excellent non-yellowing characteristics and superior color and gloss retention on exterior exposure. Specifically formulated to withstand Marine and coastal environments. For both interior and exterior applications.

- Corrosion resistant
- Excellent color and gloss retention
- Low odor

RECOMMENDED USES

For atmospheric use on interior and exterior exposed marine surfaces such as commercial ocean craft, trim and decks, coastal structures and properly primed wood, Iron and Steel, Aluminum and Galvanizing.

- Deck Houses
- Handrails
- Machinery and Equipment
- Ladders
- Topside Areas
- Logo Equipment
- Freeboard

PRODUCT CHARACTERISTICS

Finish:	High gloss 85+ Units @ 60° angle
Colors:	Wide range of color availability
Volume Solids:	50% ± 2%, may vary by color
Weight Solids:	63% ± 2%, may vary by color
VOC (EPA Method 24):	<420 g/L; 3.5 lb/gal

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	**4.0** (100)	**6.0** (150)
Dry mils (microns)	**2.0** (50)	**3.0** (75)
~Coverage sq ft/gal (m^2/L)	**265** (6.5)	**400** (9.8)
Theoretical coverage sq ft/gal (m^2/L) @ 1 mil / 25 microns dft	**800** (19.6)	

NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Drying Schedule @ 4.0 mils wet (100 microns):

@ 77°F/25°C
50% RH

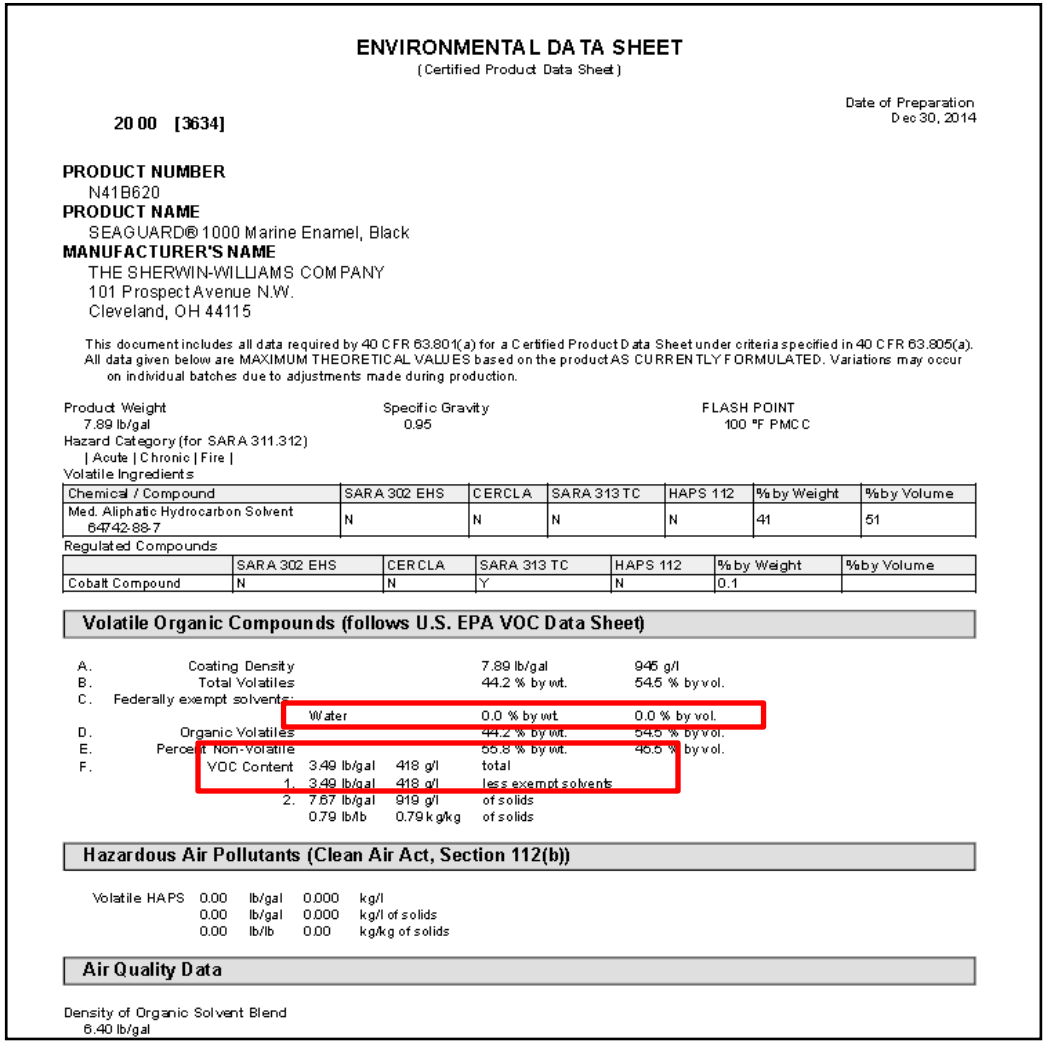
To touch:	1-2 hours
To handle:	4-8 hours

PERFORMANCE CHARACTERISTICS

Test Name	Test Method	Results
Abrasion Resistance	ASTM D4060	54 grams
Direct Impact Resistance	ASTM G14	80 lbs
Dry Heat Resistance	ASTM D2485	300°F (149°C), paint film yellows but remains protective and intact
Exterior Durability		Excellent
Flexibility	ASTM D522	1/8" bend
Pencil Hardness	ASTM D3363	2 - 4 H
Reverse Impact Resistance	ASTM G14	10 lbs
Salt Fog Resistance	ASTM B117, 500 hours	Passes
Wet Heat Resistance (non-immersion)		100°F (38°C)

Meets the requirements of:
CAN/CGSB 1.61 For Canada DND

ENVIRONMENTAL DATA SHEETS (EDS)



ENVIRONMENTAL DATA SHEET

(Certified Product Data Sheet)

Date of Preparation
Dec 30, 2014

20 00 [3634]

PRODUCT NUMBER
N41B620
PRODUCT NAME
SEAGUARD® 1000 Marine Enamel, Black
MANUFACTURER'S NAME
THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, OH 44115

This document includes all data required by 40 CFR 63.801(a) for a Certified Product Data Sheet under criteria specified in 40 CFR 63.805(a). All data given below are MAXIMUM THEORETICAL VALUES based on the product AS CURRENTLY FORMULATED. Variations may occur on individual batches due to adjustments made during production.

Product Weight
7.89 lb/gal

Specific Gravity
0.95

FLASH POINT
100 °F PMCC

Hazard Category (for SARA 311.312)
| Acute | Chronic | Fire |

Volatile Ingredients

Chemical / Compound	SARA 302 EHS	CERCLA	SARA 313 TC	HAPS 112	% by Weight	% by Volume
Med. Aliphatic Hydrocarbon Solvent 64742-88-7	N	N	N	N	41	51

Regulated Compounds

	SARA 302 EHS	CERCLA	SARA 313 TC	HAPS 112	% by Weight	% by Volume
Cobalt Compound	N	N	Y	N	0.1	

Volatile Organic Compounds (follows U.S. EPA VOC Data Sheet)

A.	Coating Density			7.89 lb/gal	945 g/l
B.	Total Volatiles			44.2 % by wt.	54.5 % by vol.
C.	Federally exempt solvents:				
	Water			0.0 % by wt.	0.0 % by vol.
D.	Organic Volatiles			44.2 % by wt.	54.5 % by vol.
E.	Percent Non-Volatile			55.8 % by wt.	45.5 % by vol.
F.	VOC Content	3.49 lb/gal	418 g/l	total	
	1.	3.49 lb/gal	418 g/l	less exempt solvents	
	2.	7.67 lb/gal	919 g/l	of solids	
		0.79 lb/lb	0.79 kg/kg	of solids	

Hazardous Air Pollutants (Clean Air Act, Section 112(b))

Volatile HAPS	0.00	lb/gal	0.000	kg/l
	0.00	lb/gal	0.000	kg/l of solids
	0.00	lb/lb	0.00	kg/kg of solids

Air Quality Data

Density of Organic Solvent Blend
6.40 lb/gal

An EDS is a document that gives information in regards to environmental considerations such as air quality, water quality, and toxic waste disposal.

If a manufacture supplies an EDS, there is a good chance it will have the VOC information you need.

WHAT IF THESE DOCUMENTS DON'T HAVE THE VOC INFORMATION I NEED?

If the documents supplied by the manufacturer do not contain the VOC information necessary to complete your application, you must contact the manufacturer. Use:

- The product label
- The contact information at the top of a supplied document
- The manufacturer's website

Representatives for the manufacturer that can help supply VOC information include:

- Chemists
- Product/Customer Service Engineers
- Environmental Health Personnel