# 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)**

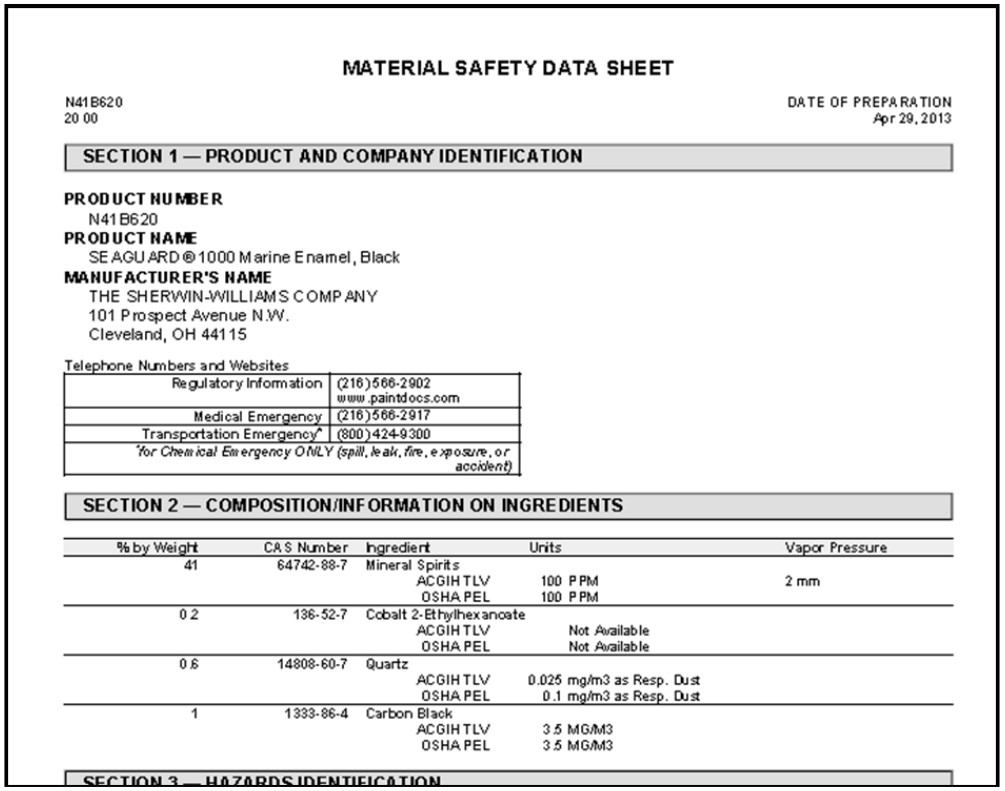
**Environmental Data Sheets (EDS)**

**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<br>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 | |

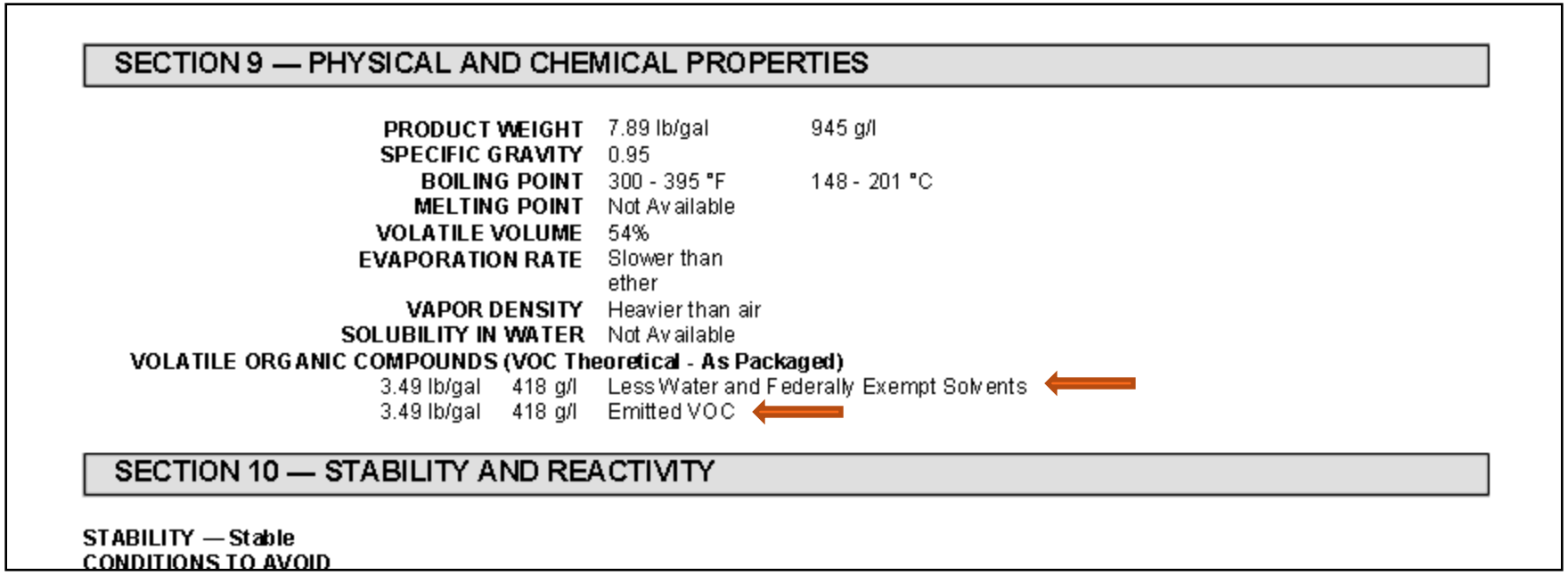
SECTION 3 — HAZARDS IDENTIFICATION

'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:

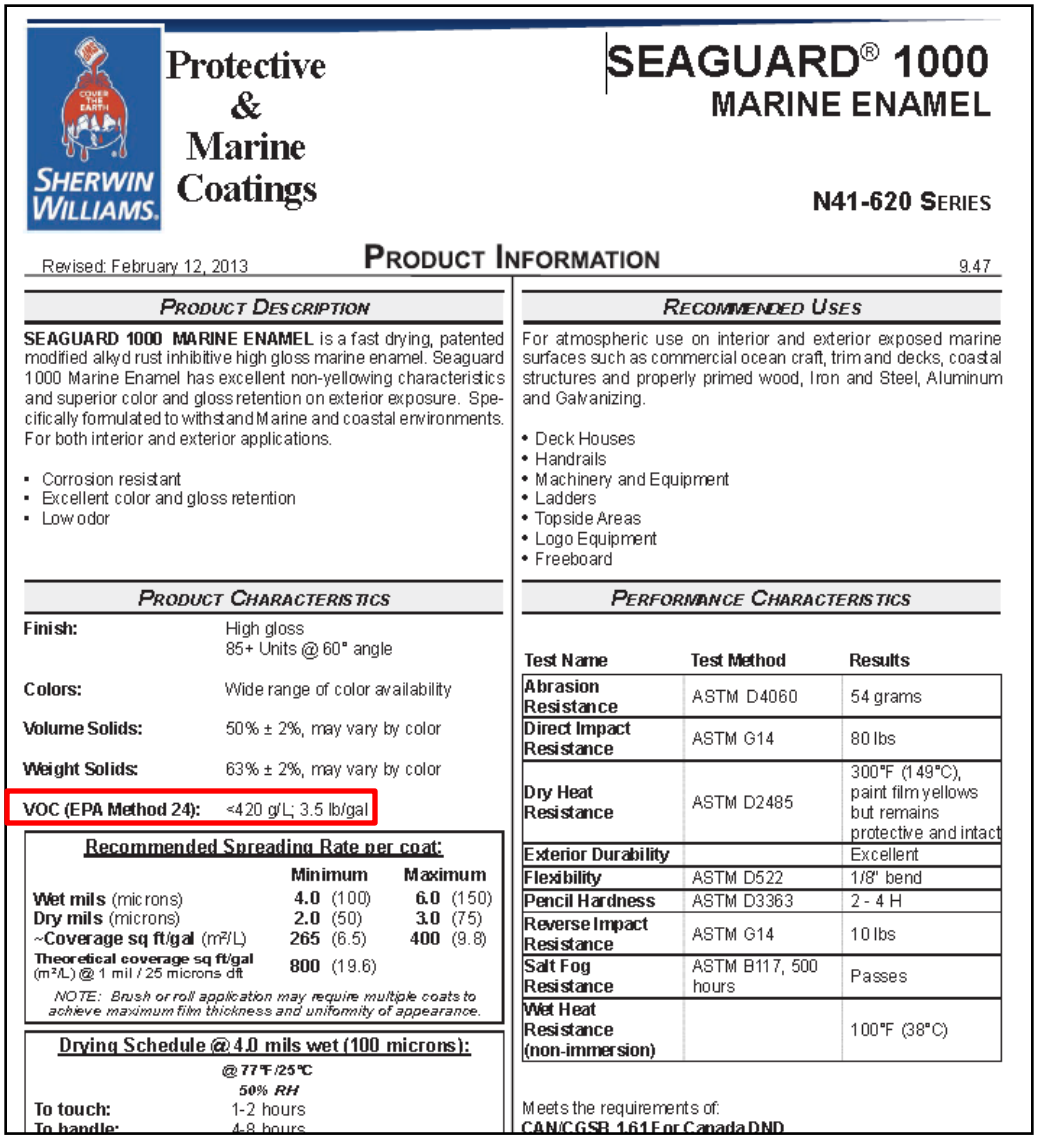
- *'Regulatory Information'* - usually Section 15 or 16
- *'Composition/Ingredient Information'* - typically found at the beginning of a MSDS or SDS
- *'Other Information'* - typically found at the end of a MSDS or SDS

# 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<br>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*

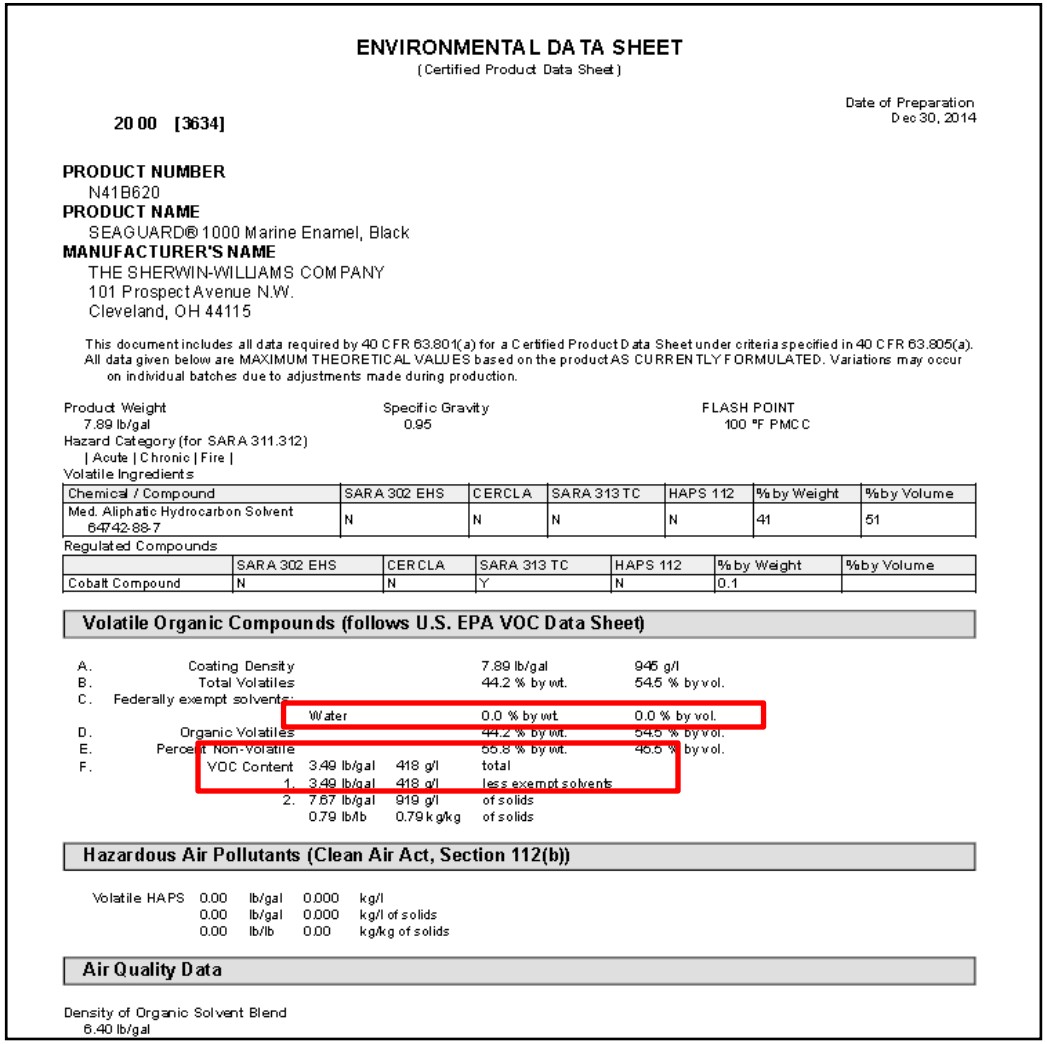
| | |
|---|---|
| **To touch:** | 1-2 hours |
| **To handle:** | 4-8 hours |

**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