

什么是 VOC ?  
What are VOC

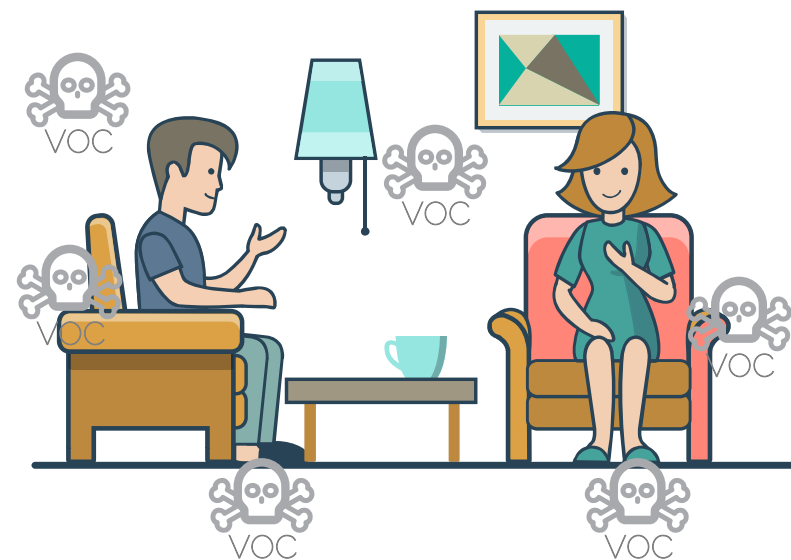


## What are VOC ?

VOC are "Volatile Organic Compounds", such as formaldehyde, ammonia and ethylene glycol. VOCs not only pollute the air in indoor environments, but also adversely affect health. When indoor VOC levels reach a certain concentration, people may experience symptoms such as headaches, nausea and vomiting. VOC can also cause damage to the liver, kidneys, brain and nervous system, cause memory loss and even increase the chance of leukemia. In indoor environments, VOC mainly come from building materials such as wooden furniture, cleaning products, adhesives and varnish.

**VOC，即“挥发性有机化合物”，包括甲醛，氨，乙二醇等物质。VOC不单会污染室内空气，更会影响健康。当室内的VOC达到一定的浓度时，人类会出现头疼，恶心，呕吐等症状；亦会伤害人体肝脏，肾脏，大脑和神经系统，造成记忆衰退，甚至增加患上白血病的机率等等。**

在居室中，**VOC**主要来自建筑材料如木制家具，贴著剂，涂料，清洁用品等等。





Volatile Organic  
Compounds

挥发性有机化合物



吸入过量  甚至会增加患癌症的几率。。。。  
VOC Increase the chance of leukemia.....



Leukemia





# Major Source VOC (Interior)

室内VOC的主要来源



Paint  
油漆



Wood Furniture  
木制家具



Fabric Furniture  
布料家具



Plastic  
塑料




Furniture Adhesive  
木业胶水

Wooden Floor / Carpet  
木制地板/纺织地毯







闻不到漆味  
不等于没有伤害

Odourless does not mean not harmful



## Added Information : In-Door Air Quality (VOC \*g/L) Control In Asia Pacific



Country :

Japan

Korea

Singapore

Malaysia

Thailand

China

Label /  
Regulation:

Japan  
Eco Mark

Korea  
Eco Label

Singapore  
Green Label

Sirim  
Eco Label

Thai  
Green Label

National  
Standard  
GB18582-2008

Interior  
VOC Limit :  
(g/L)

Max 1

<40g/L

<25-70g/L

<50g/L

<50g/L

<120g/L

### EPA's National Volatile Organic Compound Emission Standards for Architectural Coatings



USA Standard

**“0 VOC Paint” is 5g/L or less**

5g/L 或更少可称为 “0 VOC 室内漆料”

EPA : State Environmental Protection Agency

Information Source : <http://paintgurus.typepad.com/blog/2010/01/the-real-green-story.html>



1<sup>st</sup>  
In Malaysia



## Paint Product VOC Positioning :

漆料产品的VOC定位：

Comply to SIRIM  
Eco-Label Standard



SIRIM  
ECO-LABEL

VOC : 50g / L

**APEO Free /  
LOW VOC /  
NEAR ZERO VOC**  
VOC : Less Than 50g / L

EPA's National Volatile Organic Compound Emission Standards for Architectural Coatings



USA Standard

EPA : State Environmental Protection Agency

**"0 VOC Paint" is 5g/L or less**

5g/L 或更少可称为 "0 VOC 室内漆料"

**ZERO VOC**  
VOC : 5g / L or Less



VOC : < 1g / L

Tested by :





**Smart<sup>®</sup>**  
Paints



Affordable Eco-Product for  
Better Tomorrow :)

