

VOC-FREE VEGGIE PLASTIC COATING POPULAR WITH OIL AND GAS COMPANIES

One of the major problems for the industrial coating industry worldwide are Volatile Organic Compounds – VOCs for short



For applicators inside tanks and other confined spaces, that's the strong odour given off and one the health authorities globally are increasingly cracking down on as being a potential health hazard. It is certainly a major disposal headache for applicators who often have to use several gallons of solvents per gallon of applied coating during clean-up. Then there is the considerable additional expense for the safe disposal of the waste solvents.

In North America, there has been increasing pressure on ridding VOCs not only from the coating contents but also from the clean-up process.

Conventional epoxy coatings contain VOCs and their application in any indoor environment cause a spike in indoor air pollution. Buildings with poor air quality due to inefficient ventilation are often termed 'sick buildings'.

*Chronic effects of cumulative exposure to low-level multiple chemicals have been recognized recently to be an important area of research. It is vital to understand whether this type of exposure has contributed to the increase in the prevalence of asthma, autism, childhood cancer and medically unexplained symptoms and to the apparent decline in human reproductive function (e.g. sperm counts) in some populations.

One obvious solution is not to have any VOCs, not only in the content of the coating, but also to have them eliminated from the clean up process.

Just such a coating has been pioneered for 20 years in Canada – plasticised gypsum.

Literally a mix of about 60 percent gypsum, an incredibly cheap, non toxic and stable compound, with renewable castor bean oil. When combined in a VOC-free, fast acting process, the resultant coating is a very stable, inert form of plastic that performs exceptionally

well with oil, acids, sulphurous compounds, and yet retains its natural plasticity in extremes of temperatures, making it ideal for coating concrete and steel.

Furthermore, the spray gun and hoses do not require solvents for clean up at all. The two basic components are combined right at the nozzle and a simple steel tool is used to ream out any spent compound when the job is finished.

In the USA, the pioneer of this product called Ecodur, is Castagra Products Inc. which has manufacturing plants in Houston and Fort Worth, Texas, the heart of the US oil and gas industries.

Castagra chose to work with castor oil because of its complexity that aids the creation of a robust, stable plastic. In internal applications, and under normal atmospheric conditions in commercial buildings and schools for instance, it would likely last well in excess of a century, making it an excellent candidate for asbestos encapsulation.

A number of schools in Pittsburgh are permanently mothballed due to their asbestos content, and the EPA allows for approved encapsulation.

Today, Castagra is firmly focussed on the oil and gas industries where Ecodur 201 is being widely used for tank coatings. With its NSF61 certification, it is also approved for use in potable water tanks. **CSW**

* Indoor air pollution: a global health concern

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Before:



After:

