RÖCHLING
Engineering Plastics

Material Safety Data Sheet

Section 1: Product

Product Name: Rigid PVC Sheet

Dangerous Goods Class and Subsidiary: Not Allocated

Use: Chemical tanks, Sea water tanks, Ducts, Interior and Exterior material for building industry, etc

Section 2: Product/Ingredients

Chemical Name	Other Name	CAS #	Proportion
Poly Vinyl Chloride Resin	PVC	9002-86-2	>90%
Stabilizer Composites			Trade secret
Calcium Carbonate	Mineral filler		Trade secret

Section 3: Health Information

RIGID PVC SHEET is industrial material providing excellent chemical resistance.

Its applications include use in chemical tanks, sea water tanks, ducts and etc.

The health effects of this product relate to fume generated when it is heat welded or thermally cut. Whilst vinyl monomer requires consideration by the manufacturer, people handling sheets are not exposed to this hazard.

However the use of this product may require heating to approximately 200°C, at which temperature irritating fumes are given off, The fumes consist of decomposition products(not the original chemical constituents) mostly the acid gases, hydrogen chloride and hydrogen sulphide as well as carbon monoxide.

Section 4: Emergency and First Aid Procedure

First aid information relates to exposure to fumes and dusts generated when heating, heat welding, cutting or machining this product.

Eye contact: Flush thoroughly with water for at least 15 minutes. If irritation persists seek medical attention.

Skin contact: Flush skins with water

Inhalation: Remove from further exposure. If respiratory irritation, dizziness or nausea occurs, seek immediate medical assistance.

Roechling Engineering Plastics Pte. Ltd.
14 Tuas Avenue 8
Singapore 639229

Tel: [65] 6863 1877
Fax: [65] 6863 1766
Company's Registration No. 199003765E

www.roechling-asia.com
rep@roechling.com.sg

Regional Logistics Centre
2 Tuas Avenue 8
Singapore 639216

Section 5: Fire and Explosion Hazards

RIGID PVC SHEET is self-extinguishing material but will burn in a fire releasing products of combustion including acid gases, hydrogen chloride, hydrogen sulphide, carbon monoxide and carbon dioxide. Fire fighters should wear self-contained breathing apparatus.
Use water or chemical foam extinguishing media

Section 6: Accidental Spill and Release Measures

Not Applicable

Section 7: Handling and Storage

No special regulations

Section 8: Exposure Control and Personal Protection

There is no specific Exposure Standard for the fume generated by heating rigid PVC sheet, but the following Exposure Standards for some of the constituents of the fume should apply:
Hydrogen chloride: 5ppm (7.5mg/cubic meter) peak limitation
Carbon monoxide: 30ppm (34mg/cubic meter) time-weighted average (TWA)
Carbon dioxide: 5,000ppm (9,000mg/cubic meter) time weighted average (TWA)
30,000ppm (54,000mg/cubic meter) short term exposure limit (STEL)

Employee Protection
Respiratory Protection
When heating, heat welding, cutting or machining, employee must wear proper masks and use proper ventilation utilities.

Protective Clothing
Safety glasses and protective clothing should be worn when employee are handling this product.

Section 9: Physical and Chemical Properties

Appearance	Rigid PVC Sheet (Grey, Ivory, Blue)
Boiling Point (°C)	Not Determined
Melting Point (°C)	Not Determined
Vapor pressure	Not Determined
Specific gravity	1.46
Flashpoint	Not Applicable
Flammability Limits	Not flammable under conditions of use
Solubility in water	Negligible

Section 10: Stability and Reactivity

Not flammable under normal conditions of use. If heated to decomposition will emit hydrogen chloride, carbon monoxide, carbon dioxide, possibly trace amounts of phosgene and phthalates, and smoke.

Section 11: Toxicological and Epidemiological Data

Polyvinyl chloride has been reviewed by the International Agency for Research on Cancer (IARC)' as not classifiable as to carcinogenicity (cancer causing ability) in humans Group3.

Acute Effects:
The acute effects relate to exposure to fume secondary to heat-welding this product. The products of decomposition are acid gases (hydrogen chloride. Hydrogen sulphide), carbon monoxide and carbon dioxide. In a study of mice exposed to decomposition products from heating PVC to temperatures between 200-300°C the RD50 value was 11.51 mg/m^2. The authors recommended keeping levels below 0.35 mg/m^2 to protect workers from the irritating effects of the fume[2].

Long Term Effects:
Heating PVC has been associated with meat wrapper' s asthma and it is thought that phthalates may be the cause [3,4].

References:

1. IARC Monographs on the evaluation of carcinogenic risks to humans. Supplement 7: Overall evaluation of carcinogenicity An updating of IARC monographs, Volumes 1 to 42. IARC, Lyon France, 1987.
2. Levy SA, Storey J, Phashko BE. Meat worker' s asthma. Journal of Occupational Medicine, 20(2):

116-118, 1978.

3. Pauli G, Bessot JC et al Meat wrapper' s asthma: identification of the causative agent. Clinical Allergy, 10(3): 263-269, 1980
4. Schaper MM, Thompson RD, Detwiler-Okabayashi KA, Respiratory responses of mice exposed to thermal decomposition products from polymers heated at and above workplace processing temperatures. American Journal of Industrial Medicine, 55(10): 924-934, 1994.

Section 12: Ecological Information

Ecotoxicity

Section 13: Disposal Considerations

Recover waste material, or dispose of in accordance with local authority guidelines

Section 14: Transportation Information

There are no special transport requirements.

Section 15: Regulatory Information

No special Regulations