

PRODUCT RISK ASSESSMENT

Names:

CAS No. 9002-86-2
Polyvinyl chloride (PVC)

Product Overview:

- Polyvinyl chloride (PVC) is a colorless, non flammable, non reactive solid with no odor. See [Product Description](#).
- Polyvinyl chloride (PVC) is usually stored and/or transported as 25 Kg Bags or 1 MT FIBC jumbo Bags. It is used in raw material for plastic Processing industry.
- Polyvinyl chloride (PVC) is a non hazardous material. See [Health Information](#).
- For handling and storage keep in cool and well ventilated place, Keep away from heat and sunlight
- RIL supports the sale of Polyvinyl chloride (PVC) for use of plastics in Processing Industry only in industrial applications. Please provide adequate ventilation when using the material and follow the principals of good occupational hygiene. See [Exposure Potential](#).
- Not classified as dangerous for supply and use. See [Physical Hazard Information](#).
- Release of dust to environment does not pose any threat. See Environmental Information.

Manufacture of Product:

- Capacity: – PVC is the third most widely produced plastic after Polyethylene and Polypropylene. Worldwide capacity of PVC in 2010 was in excess of (34 million metric tons). RIL produces 0.65 million metric tones per annum.
- Process: PVC is prepared by Suspension Polymerization using vinyl chloride monomer as feed stock.

Product Description:

- Polyvinyl chloride (PVC) is a colorless solid in powder form with no odor. It is non-reactive with environment.

Product Uses:

- Polyvinyl chloride (PVC) is widely used in Plastic Processing Industry to make variety of Products such as Packaging Films, Sheets, Boxes, Containers, Bags, Pipes, Home Care, Personal Care & Hygiene Combs, Brushes, Medicals & Surgical Equipments, Industrial Products and articles of day to day usage.

Exposure Potential:

- Polyvinyl chloride (PVC) is used as raw material for plastic processing industry. Based on the uses for Polyvinyl chloride (PVC), the public could be exposed through:
- **Workplace Exposure:** Exposure can occur either in manufacturing facility or in the various industrial or manufacturing facilities that use Polyvinyl chloride (PVC). Those working with Polyvinyl chloride (PVC) could be exposed to dust during maintenance, sampling, testing, or other procedures. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. See Health Information.
- **Consumer Exposure to RIL Product:** Polyvinyl chloride (PVC) is used as a raw material in the manufacture of plastic products.
- **Environmental Releases:** The product is non-biodegradable. In the event of spillage, ensure suitable personal protection including respiratory protection during removal of spillage. Spillages may be slippery. Avoid release to environment. Do not allow to drains, sewers or watercourses. Sweep up and shovel into waste drums or plastic bags. Dust clouds are sensitive ignition by to electrostatic discharge.
- **Large Releases:** The product is non-biodegradable. If a large spill does occur, the material should be captured, collected, and reprocessed or disposed of according to applicable governmental requirements. Positive pressure, self-contained breathing apparatus (SCBA) with a full-face mask approved by NIOSH is recommended for emergency work. Eliminate all sources of ignition immediately.

Environmental, Health, and Physical Hazard Information.

In case of fire –

- Combustion or thermal decomposition will evolve toxic and irritant vapours. Combustion products may include carbon monoxide, carbon dioxide and hydrochloric acid vapors.
- CO₂ may be unsuitable due to lack of cooling capacity. Dust explosion may occur if not attended properly. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- **Extinguishing Media:** Extinguish preferably with foam, carbon dioxide or dry chemical. Do not use water jet or water spray.
- **Fire Fighting Protective Equipment:** A self contained breathing apparatus and suitable protective clothing should be worn in fire conditions.
- **Hazardous Decomposition Product(s):** Combustion or thermal decomposition will evolve toxic and irritant vapors.
- Can melt and burn in a fire. Molten material will propagate fire. See Physical Hazard Information.

For more information, request the relevant Material Data Safety Sheet from RIL

Health Information:

- Polyvinyl chloride (PVC) is non toxic non hazards material and can be considered as safe for contact with humans and animals,
- **Ingestion:** Low oral toxicity. Polyvinyl chloride (PVC) LD₅₀ (rat) : >5000 mg/kg

- Inhalation: Low acute toxicity. Dusts and vapors or fumes evolved during thermal processing may cause irritation to the respiratory system.
- Skin Contact: No evidence of irritant effects from normal handling and use.
- Eye Contact: Dust may have irritant effect on eyes. Permanent damage is unlikely.
- Long Term Exposure: Chronic effects are unlikely.

For more information, request the relevant Material Data Safety Sheet

Environmental Information:

- Under normal conditions, Polyvinyl chloride (PVC) exists as a solid powder.
- Polyvinyl chloride (PVC) is susceptible to degradation by exposure to high temperature.
- Dust may have irritant effect on eyes. Permanent damage and chronic effects are unlikely.
- Polyvinyl chloride (PVC) is insoluble in water. The product is non-biodegradable.
- Low toxicity to aquatic organisms.
- Unlikely to affect biological treatment processes

For more information, request the relevant Material Safety Data Sheet

Physical Hazard Information:

Polyvinyl chloride (PVC) is a non-reactive product, stable at ambient storage conditions. It does not decompose in the air at ambient temperature and does not release any harmful gases or other products. Keep the product in original container in a cool, ventilated place. No special precautions needed for handling and storage. Can melt and burn in fire. Molten material tends to flow and will propagate fire.

For more information, request the relevant Material Data Safety Sheet

Regulatory Information:

Regulations may exist that govern the manufacture, sale, transportation, use, and/or disposal of Polyvinyl chloride (PVC). These regulations may vary by city, state, country, or geographic region. Information may be found by requesting the Technical Data Sheet, or requesting the relevant Material Data Safety Sheet from RIL.

Reference:

- National Institute for Occupational Safety and Health guide to chemical hazards and International Chemical Safety Cards (WHO/IPCS/ILO) and <http://toxnet.nlm.nih.gov/cgi-bin/sis/search>, <http://webnet3.oecd.org/eChemPortal/Results2.aspx?SubstanceId=169630>, <http://ecb.jrc.ec.europa.eu/esis/index.php?PGM=ein>
- European Commission Joint Research Centre (<http://ecb.jrc.ec.europa.eu/>)
- Regulation EC/1907/2006 (REACH)
- European SDS Directive ANSIZ400

Other Information:

As part of its Sustainability Goals, RIL has committed to make publicly available safety assessments for its products globally. This product safety assessment is intended to give general information about the chemical (or categories of chemicals) addressed. It is not intended to provide an in-depth discussion of health and safety information. Additional information is available through the relevant Material Data Safety Sheet, which should be consulted before use of the chemical. This product safety assessment does not replace required communication documents such as the Material Data Safety Sheet.

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