

Safe & Cost-effective

OQEMA Ltd. safe packaging and dispense of Hydrazine Hydrate

Hydrazine Hydrate is a colourless liquid that is used in chemical manufacturing eg. agrochemicals, pharmaceutical syntheses and as boiler feed water treatment. It is classified as toxic, corrosive and dangerous to the environment. In the Seveso II Directive 96/82/EC, Hydrazine Hydrate was brought underneath the scope of thresholds relating to Carcinogens. Exposure to Hydrazine Hydrate by inhalation may cause carcinogenic affects. The chemical is toxic via ingestion or absorption.



Range of Packaging for Hydrazine Hydrate

OQEMA Ltd. (www.oqema.co.uk) is a medium sized chemical company, specialising in Hydrazine Hydrate dilutions and nitrations. They supply the product mainly to power stations, where it is used to treat boiler feed water, acting as an oxygen scavenger to minimise corrosion.

The company has invested heavily in safety equipment, chemical handling and storage systems in order to be compliant with COMAH regulations, which refer to the quantities and concentrations of hazardous chemicals that can be stored at a specific site.

OQEMA switches to RSV/DV Valve from IPI

“OQEMA has adopted the RSV/DV closed dispensing system from IPI because it offers the best security and safest system to handle and dispense Hydrazine Hydrate” - reports Stuart Alexander, Product Manager Aroma & Performance Chemicals at the company headquarters near Oxford (UK) - “Previously, our customers dispensed Hydrazine Hydrate using a plastic dry-break valve and coupling system. Due to our emphasis on product development, we sourced the IPI system, which is superior in terms of safety and handling”. The previous valve system had a number of weak points:

- Disconnection of the coupler sometimes led to splashing as the dry-break valve stayed open momentarily on disconnection. This led to **OQEMA** having to recommend to its customers that a splash guard was fitted to all couplers.
- Plastic one-shot IBCs had to have a separate vent line with the old plastic type dip tubes. The IBCs would implode on emptying, as the dip tubes had limited air inlet capacity.
- There were occasions, where the Hydrazine drums/IBCs were returned with valves having been unscrewed and removed. This led to increased risk for employees, logistics operators and to higher labour costs, since **OQEMA** needed to inspect each returned container. The valve system could not guarantee product integrity and **OQEMA** did not have the confidence to refill the drums without first checking them.
- Closed system filling was not available.
- There was potential of container leakage through the valve in transit.



25L drum with DVC1800 Filling containers

IPI Products

Containers are fitted with the RSV/DV Valve dispensing system from IPI with EPDM seal material:

- RSV/DV Valve with plastic dip-tube inserted in IBCs and drums
- Fill-Head to fill in the containers at OQEMA
- RSV/DV Coupler (DVC1800) to extract the Hydrazine Hydrate from the containers at the customer site. This features a special dry-break valve that eliminates any leakage on transfer.

Key benefits of the Micro Matic RSV/DV Valve System

The closed liquid transfer system allows **OQEMA** to store, fill and transport Hydrazine Hydrate very safely, eliminating any risks of contact with the dangerous chemical as well as any liquid or vapour leakage and spillage, that may harm people or contaminate the environment. At power stations, operators are able to extract and dispense hydrazine safely, quickly and very efficiently without the need for respiratory protection equipment.

At the same time the **RSV/DV** Valve system provides:

- Ease of handling, simplifying container changeovers.
- Product integrity, since the **RSV/DV** Valve cannot be easily unscrewed and hence no other liquids can be inserted.
- Savings: it decreases waste disposal costs, since it's used on returnable IBCs and drums and it reduces labour costs related to inspecting returned drums.
- Robust and durable, it lasts for many years.
- It's a true closed liquid transfer system and allows safe filling and emptying of containers.
- There was potential of container leakage through the valve in transit.