

MYKAL[®] CASE STUDIES

- **PU Cleaner**
keeps the buoys afloat



Mykal Industries were approached by a large manufacturer of polyurethane (PU) foam filled buoys and fenders for the shipping industry



following a press release detailing the advantages of PU Cleaner (SB 6) over Methylene Chloride.



Trials were carried out in two areas of production to prove not only the effectiveness of PU Cleaner (SB 6) but also its recyclable qualities.



Where a large amount of PU foam is required, mixing vessels are used rather than traditional mixing heads to combine the two constituents. These mixing vessels have traditionally been cleaned using Methylene Chloride which is a very volatile and hazardous solvent.

Successful trials using PU Cleaner (SB 6) gave comparable results to Methylene Chloride using far less solvent, which not only reduced the VOC (Volatile Organic Compound) emissions but made the working environment safer.



Methylene Chloride is also used to flush the PU mixing heads following the filling of moulds, which again is a wasteful process as the solvent evaporates to atmosphere. PU Cleaner (SB 6) proved as effective at cleaning the mixing heads whilst being collected for recycling. If the mixture of PU and PU Cleaner (SB 6) is allowed to stand for 24-48 hours, the two components will separate allowing the re-use of the PU Cleaner (SB 6).



For industries which make use of Polyurethane injection moulding or casting as part of their manufacturing process, such as Footwear, Aerospace and Automotive, plant cleaning and maintenance is essential if it is not to be interrupted by faulty or dirty injection equipment and components.



Methylene Chloride has been traditionally used for the flushing of PU mixing heads and injection moulding equipment due to its fast purging and drying properties, yet it can only be used once and requires users to wear protective clothing and respiratory equipment because it is classified as a Category 3 Carcinogen – R40 Possible Risk of Irreversible Effects.



Methylene Chloride also requires specialist disposal and storage facilities before, during and after use due to its hazardous nature. Although most of the Methylene Chloride used in flushing operations evaporates to atmosphere and negates the disposal of large amounts, this contributes significantly to the user's VOC emissions. However, the ongoing removal of hazardous chemicals such as Methylene Chloride from the workplace and the need to reduce VOC emissions through Health & Safety legislation provides a significant opportunity for Mykal PU Cleaner (SB 6).

PU Cleaner (SB 6)	Methylene Chloride
VOC 659 g/l	VOC 1300 g/l
Boiling Point > 170°C	Boiling Point 39.6°C
Non-Carcinogenic	Category 3 Carcinogen R40
Standard Solvent Storage & Disposal	Special Storage & Disposal Required
No Respiratory Equipment Required	Respiratory Equipment Required
Standard Solvent Ventilation	Special Ventilation
Re-cycles 7-8 times	Single use

PU Cleaner (SB 6) is a powerful yet safer solvent product for flushing through PU mixing heads. It contains a release agent that, when used regularly, can prevent the build up of semi-cured PU in the mixing chamber. It works through a flushing cycle of between 2-5 seconds followed by a 45 second air blast to dry.



PU Cleaner (SB 6) can also be re-used up to 8 times. Whether removing cast or foam Polyurethanes, PU Cleaner (SB 6) can be separated out from waste collected after the flushing cycle without significant reduction in cleaning power.

CAN BE RE-USED 8 TIMES!



This means PU Cleaner (SB 6) can provide a lower overall cost in use compared to Methylene Chloride. Methylene Chloride can only be used once before being replaced unless expensive recovery equipment is used, whereas PU Cleaner (SB 6) can be re-used several times resulting in less product used, a reduction of VOC emissions, less product purchased, less stock held and less money spent.



Overall, Mykal PU Cleaner (SB 6) provides the PU industry with a real and proven alternative to Methylene Chloride in terms of performance, economy and greatly improved environmental health and safety.

