HEATING AND HANDLING PROCEDURE FOR ALKYLPHENOLS IN DRUMS

The following is a suggested heating and handling procedure for high freeze point alkylphenols in a drum. The intent of this heating and handling procedure is to give experienced material handlers, who are knowledgeable with their equipment, a general outline. The procedure should be modified to accommodate each plant’s unique unloading system.

All personnel who may work with mono- or di-alkylphenols should read all of the information provided in the Material Safety Data Sheet (MSDS). The proper Personal Protective Equipment (PPE) for unloading these materials includes, but is not limited to:

- Rubber gloves
- Hard hat
- Respirator
- Slicker suit
- Full face shield
- Safety glasses with side shields

SI Group’s high freeze point and liquid mono-alkylphenols and di-alkylphenols are available in phenolic-lined steel 55-gallon (208 litre) drums. The drums are filled by weight – 410 pounds (185.97kg) for most products. Nonylphenol and dodecylphenol have a weight of 425 pounds (192.7 kg). After the drums are filled, they are sealed and a cap is crimped over each bung.

Handling and Storage

We recommend that drums be moved by fork trucks fitted with a drum picker, or on pallets. Avoid moving drums by hand, or with the forks on a forklift truck. Drummed alkylphenols should be stored in a cool, dry area.

Heating of drums

Some mono- or di-alkylphenols may need to be heated in a hot box, or by other means, prior to use. The bungs on the drum top should be loosened to release any pressure build up that may occur during the heating process. The bungs should be kept in the openings to minimize product exposure to oxygen, and to keep foreign matter from getting into the product.
Most companies have standard operating procedures for loading materials from drums to another vessel. When operators or material handlers are in a position to be exposed to mono- or di-alkylphenols they should wear the above mentioned PPE. Precaution should be taken so that plant personnel exposure to alkylphenols is minimized.

If a drum is only partially emptied, or portions of the drum contents are used over a period of time, we recommend blanketing the drum head space with clean, dry nitrogen, to preserve the product’s color quality. The drum should be re-sealed with the bungs each time the drum is opened. Unused drums of mono- and di-alkylphenols (seal not broken) will maintain product integrity for a minimum of 2-3 years.

NOTE: If unloading or use of the drummed product is delayed, and the product is molten, leave an appropriate level of heat on the drum to maintain the unloading temperature (±5°C/±9°F) above the listed freezing point of the product in question. The product quality (i.e., color) may be compromised if it cools and requires substantial re-heating. In general, products which have no freeze point such as PDDP and PNP may be made free-flowing by heating the material to 120°F (49°C).