**Product safety in MEAF**

**SELF-ASSESSMENT FORM: TDI IN DRUMS**

**Tick box as appropriate**

 **A – HEALTH AND SAFETY MANAGEMENT**

 Management is committed to improve health & safety standards.

A written health & safety policy should be available.

 Written procedures are in place and displayed on how to handle diisocyanates.

e.g. unloading, handling and maintenance.

 Workers are informed and trained about the hazards of diisocyanates.

Safety data sheets should be available to workers in their local language.

**Documented contingency plan for fire (including a fire drill, conducted every quarter), spillage and other emergencies.**

 A well documented contingency plan for fire/spillage exists.

**Or**

 A well documented contingency plan for fire/spillage exists and staff are trained in its implementation.

 The fire drill includes a test of communication with local emergency services such as fire brigade and first aid.



 Procedures are in place to manage site access and diisocyanates spills in the facility and in the immediate neighborhood.

 Access roadways are in good condition, allowing vehicles to safely enter and depart from the discharge area.



# B – DRUM HANDLING & STORAGE

 Drums are properly handled with a forklift which can unload all palletised drums from the containers.

Operators should be trained to unload drums on pallets.

**Or**

 If no forklift is available, drums are protected from damage during unloading (from a tailboard or a lorry) e.g. rolled, not dropped, onto a slab foam buffer/sturdy mattress or equivalent.

 Drums are stored in a separate bunded area.

TDI drums should be separated from those of other chemicals. The floor of the bunded area should be made of a non-absorbent material.

 Drums are stored in an area with protection from sunshine and rain.

Recommended storage temperatures for TDI are 15-40 C.

 Drums are stored vertically on pallets and no more than three drums high.

 The drum storage area is separated from the other work areas.


## C – DISPOSAL OF EMPTY DRUMS

**Empty drums should be properly decontaminated according to the ISOPA Guidelines; Which of the following applies ?**

 The procedure used follows the ISOPA guidelines "Responsible Management of Empty Diisocyanate Drums" and after treatment exposure to TDI is not possible from the decontaminated drum.

**Or**

 Drums are emptied/cleaned/flushed but not decontaminated.

**Or**

 Drums are not cleaned; this is the responsibility of the next users of the drums.

 The drums are punctured or crushed to prevent further use as containers.


### D – WORK PLACE CONTROL

**Employee Exposures and Health Effects; which of the following applies ?**

 Exposures are monitored and information is available showing that levels are below the occupational exposure limit and no health effect symptoms occurred over the last three years.

**Or**

 Exposures are not monitored; TDI is only smelt infrequently (less than once per month) Some inhalation or skin contact with TDI may have happened such as irritation of the eyes occurred more than once in the last three years.

**Or**

 TDI is smelt frequently (more than once per month), inhalation and skin contact has happened and asthma-like symptoms or skin irritation occurred more than once in the last three years.

**Are TDI vapours effectively removed from the work place with local extraction systems; which of the following applies ?**

 Ventilation system is well positioned.

 Ventilation system is well maintained and working.

**How are drums emptied ?**

 In order to prevent exposure all handling / transfer of diisocyanates is carried out in a closed system.

 A pump is used to empty drums and a respirator is used.

**Appropriate Personal Protective Equipment**

 PPE (respirators, gloves, etc.) are available.

Equipment should be stored in a dust-free environment such as an air-tight container or a cupboard

 Cartridges and facemask of respirators are selected and cartridges are changed in line with manufacturers instructions.

 Workers are trained to use PPE.

Documented training records must be available.

 Protective equipment is worn when the risk requires.

Tasks which require the wearing of masks should be identified and written documentation and/or training list for workers should be available to define where and when to use the safety equipment. Examples of activities which require the use of respiratory protection include maintenance of equipment such as pumps, cutting of foams, calibration of chemical feeds and the cleaning of equipment.

### E – Precautions to prevent foam fire

**Are you aware of the safe exotherm range in foam production?**

 There is awareness on the risks of high water/low density formulations concerning the exothermic temperature

**Do you calculate or monitor the foam exoterm temperature?**

 We use a calculation program to get an idea of the expected exotherm temperature for each flow density formulation that we use in our production plant

 We monitor the temperature increase in freshly made foams during the cooling down period (until 24 hours after production)



 When we get formulation advice from a supplier we discuss/request the exotherm temperature of the formulation

**Do you have a procedure in case of a high foam exotherm?**

 The possibility of a fire related to a high exotherm temperature is included in our emergency procedure

**Is open fire and smoking prohibited in your plant and do you have defined smoking areas?**

 Open fire is prohibited on the foam production

 Smoking is allowed on the production site, but only in dedicated areas

F – EMERGENCIES

 An emergency eye wash and/or shower (fresh water) is available and in a suitable location.

The location is very important; it should be close to high risk areas such as the truck unloading and day tank loading of TDI.

**Is self-contained breathing apparatus available to trained workers for use in an emergency; which of the following applies ?**

 Self-contained breathing apparatus is available.

In a major emergency the use of such equipment is essential.

 Workers are trained in the use of this equipment.

 Workers are trained how to react and deal with a spillage.

Training on what to do in case of an emergency should be given regularly to workers and is the training recorded ?

 Decontamination solution and absorbent material is available on site.

In order to prevent the spread of spilled diisocyante, sufficient stocks (at least one drum) of both decontaminant and absorbent materials should be maintained.

 Fire fighting equipment is available on site.

A sufficient number of foam or dry powder extinguishers, properly positioned and serviced are recommended. A water hose should also be available. A sprinkler system is best.

**First Aid and Medical Assistance**

 Trained First Aid assistance is available on-site.

 There is an active follow-up with nearby professional medical support when an exposure to TDI may have occurred.

