

Marpol 73/78



The Collector and disposal of waste from ship

1. The Prevention of Pollution from ships.

According to notification of the Department of water transport and Maritime of Administration, 25/2545 which issued in the requirement of being collector and disposal waste from ship ECO has permitted to manage waste from ship by international convention for the prevention of Pollution from ship, 1973 and protocol 1978 (MARPOL 73/78)

2. ECO Service Program

ECO is a full service environmental and waste management company. As such we are able to provide services in all area related to waste reduction, recycling, treatment and transportation. Our staff are on call or a 24/7 basis and are all fully trained in the emergency procedure to be followed in the event of a spill or environmental accident. ECO can examine all of The requirement and advise the client for Hazardous and Non-Hazardous waste material from ships. For additional information and free quotation, please contact ECO.

Head office

310/208 Chuanchuen Pattanakan Village, Pattanakan 57, Pravet Sub-district, Pravet District, Bangkok 10250, Thailand.

Tel : 662-722-3164-5, 662-722-3443 ; Fax : 662-722-0137

E-mail : ecoservice@eco.co.th

Leamchabung Branch

60/4-5 Moo 5 Tombol Toongsukhla Amphur Sriracha Chonburi 20230

Tel : 66-3849-2514-5 ; Fax : 66-3849-2516



3. Waste disposal Service

With ECO intended to give fast and safe service and concerned about cost effective and regulatory compliant waste treatment and disposal services. Waste treatment services offered by ECO use of TPI Polene Cement Kiln. This technology is very well know internationally for the disposal of waste material.

TPI Polene public company limited provide Environmental management monitoring Program. TPI Polene cement Plant is licensed to disposal Hazardous and Non Hazardous waste in this process and carries achieved accomplishment in receiving ISO9002 ISO14000 certification, but also due to the potential liability which can arise as a result damage to personal and the environment of inappropriate event.

The Destruction Efficiency (DRE) of cement kiln is well proven and has been adapted through out the world. Solids, sludges and liquid waste can be disposed of using cement kiln technology

Operating conditions	Cement Kiln
Operation Temp	1450 oC
Gas residence	10 seconds
Heat recovery	Yes for Preheating
Ach disposal	N/A
DRE	99.9999%



4. Emission of Pollution

Organic and some inorganic waste treatment and disposal requires destruction using high temperature thermal devices. The design and operation of the cement kiln determines the emissions of element. Cement kiln typically have removal efficiencies for non-volatile metals of 99.9% or better. Removal efficiencies for semi-volatile metal are generally better than 99.5%.

Cement kiln at the TPI Polene facility at SARABURI via the alternative fuels and raw materials program allows waste to be destroyed in most environmentally sound manor using the best technology available while at the some time recycling the waste as either fuel or raw material in the cement manufacturing process.

5. Transport

The basic procedure for waste pick up is as follows. Upon notification that a pick up was required, we would dispatch containers and waste delivery from ship by proper facilities waste materials would be transported to TPI Polene SARABURI for treatment.

6. Manifest System and issue of Certificate.

Thai laws mandate that waste transported to a treatment, or storage facility, must be accompanied by a manifest and issue of certificate for waste treatment.

7. Service Team

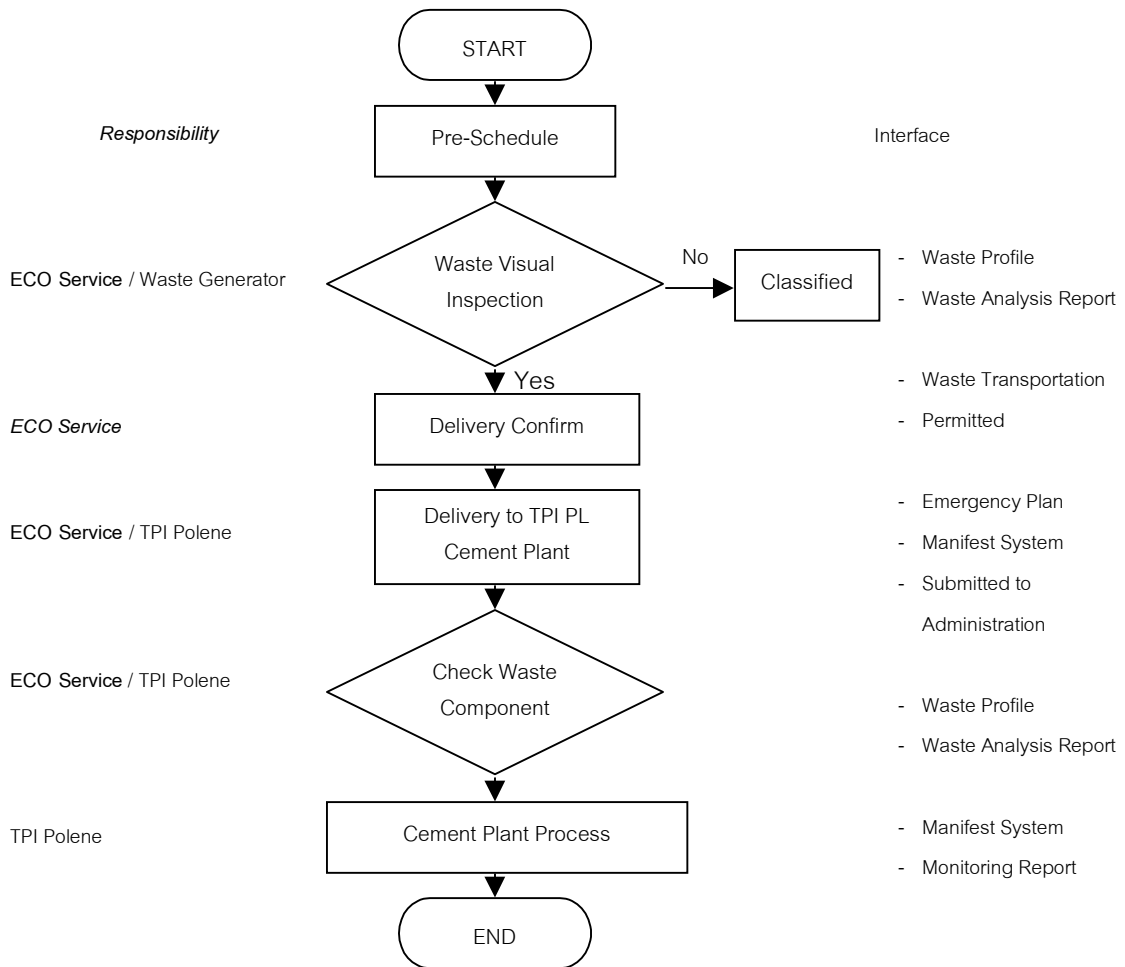
- Controlling implementation at work site when transferred waste from ship to TPI Polene.
- Taking the training course incase of emergency
- Emergency Team on call 24 hours

Tel. 66-9924-8513 66-1376-2608

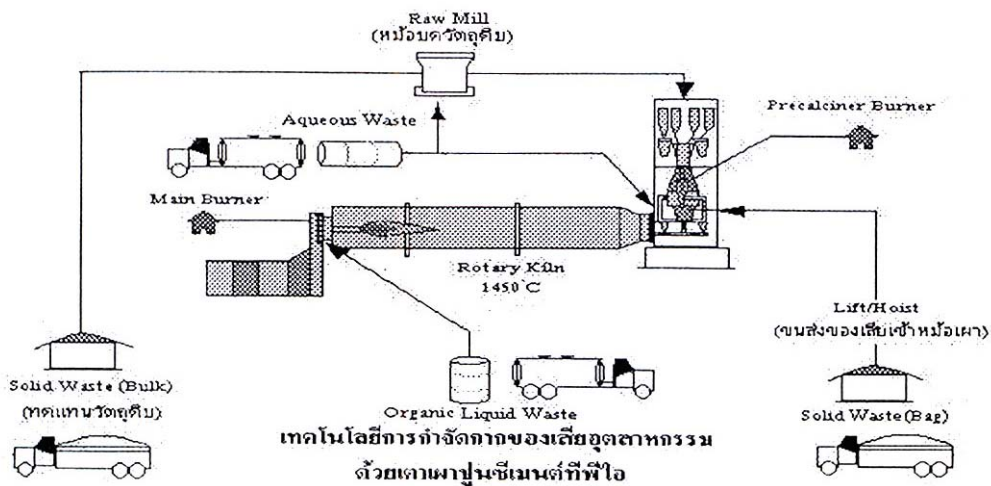
66-1903-4468 66-9921-3361



8. Waste from Ship for Treatment Procedure



Simplify Flow Process Diagram : Feed Waste to Rotary Kiln TPI Polene





9. Correction in case of Emergency during transportation.

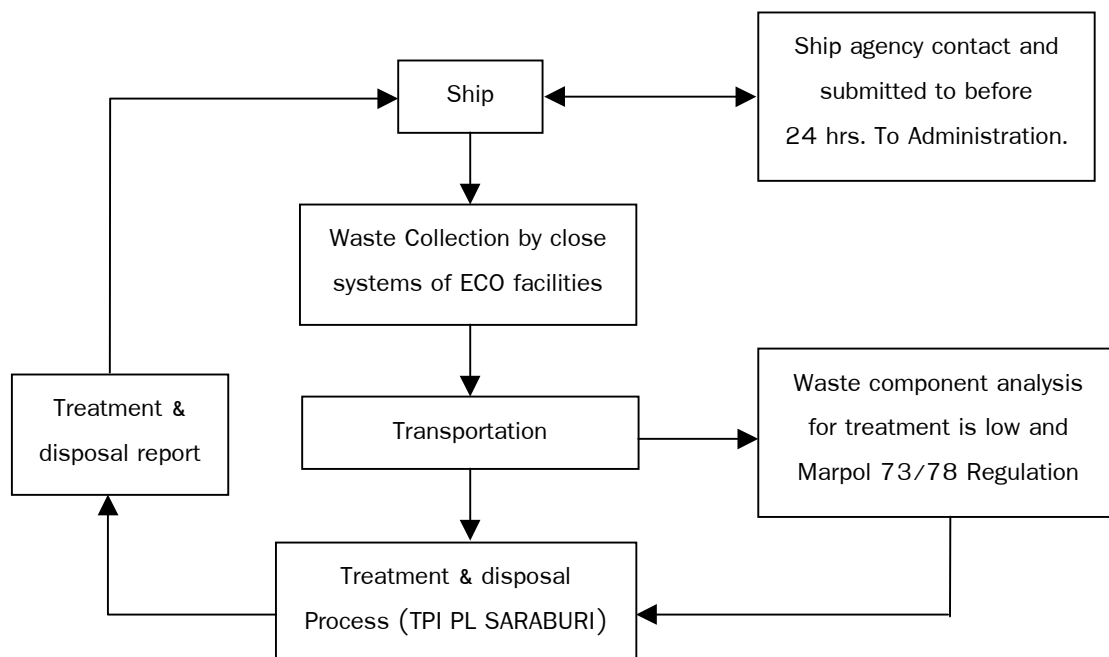
In Case of droplet leakage.

ECO Service and waste transporter incorporate conditioning area by inspecting and cleaning-up leakage to be in non hazardous condition to both health and environment by expert.

Transportation Safety

ECO Service provides vehicle to waste type such as Standard Truck Vacuum Truck, Drum trailer, drum Van, Luggger Truck and Roll of Truck.

In case of official emergency during transportations. ECO Service is supported from Emergency Case Control of TPI Polene Public Co., Ltd. To cease the event.



**Waste Management Procedure of Waste for Ship
(MARPOL 73/78)**



10. Waste Treatment certificate



No. (เลขที่) [] / []

Environmental Conservative Service Co., Ltd.

บริษัท เอ็นไวรอนเมนทอล คอนเซอร์เวทีฟ เซอร์วิส จำกัด

With the Acceptance of the Department of Water Transport and Maritime

ได้รับการรับรองจาก กรมการขนส่งทางน้ำและพาณิชยนาวี

And according to the notification vol. 25/2545 dated on 4th November B.E. 2545

ตามประกาศ ที่ 25/2545 ลงวันที่ 4 พฤศจิกายน 2545

Thailand

ประเทศไทย

Date (วันที่) [] / []

This is certify the reception facilities of waste (Oil residues, sludge oily water) discharged from the Ship M.V.

(ขอรับรองว่าได้รับของเสียจากเรือ ได้แก่ น้ำมันปนเปื้อนและกากตะกอนน้ำมันจากเรือ ชื่อ)

[] / []

Nationality [] **dated on** []
(สัญชาติ) (วันที่)

Quality [] for disposal on burning with high heat System in Rotary Kiln.
(ปริมาณ) (เพื่อนำไปกำจัดทำลายด้วยความร้อนสูง โดยเตาเผาปูนซีเมนต์)

Signature **Collector**
(ลงชื่อ) (ผู้รับกำจัด)

Environmental Conservative Service Co.,Ltd.

บริษัท เอ็นไวรอนเมนทอล คอนเซอร์เวทีฟ เซอร์วิส จำกัด



Company Experience

The Following of the company experience to transport collect and disposal waste from ship to eliminate and dispose by burning with high heat system in Rotary Kiln at TPI Polene Public Company Limited located at Saraburi

1. Department of water Transport and Maritime
 - The Ship M.V. Sky Ace and Kota Wijaya
2. Wallem Shipping Co.,Ltd
 - The Ship M.V. Kolucep
3. Sealite Shipping Co.,Ltd
 - The Ship M.V. Hunsu Bergen
4. Alteam Shipping Co.,Ltd
 - The Ship M.V. Yaoki
5. Barwil Co.,Ltd
 - The Ship M.V. Sky Ace
6. K.Line Co.,Ltd
 - The Ship M.V. Sky Ace

Chemical, Petroleum and Waste Industrial

The Following of the company experience in chemical, petroleum and waste industrial to eliminate by burning in Rotary Kiln at TPI Polene Public Company Limited located at Saraburi

1. Thai Petrochemical Industry PCL.
2. SCC-Dow Group
 - 2.1 Pacific Plastic (Thailand) Co.,Ltd.
 - 2.2 Siam Synthetic Latex Co.,Ltd.
 - 2.3 Siam Polystyrene Co.,Ltd.
 - 2.4 Siam Styrene Monomer Co.,Ltd.
 - 2.5 Siam Polyethylene Co.,Ltd.
3. Thai Airway PCL.
4. Draco PCB PLC.
5. Matsushita Electric Work Co.,Ltd.
6. Hitachi Compressor Co.,Ltd.
7. Summit Showa Manufacturing Co.,Ltd.
8. Jotun Powder Coating (Thailand) Ltd.