

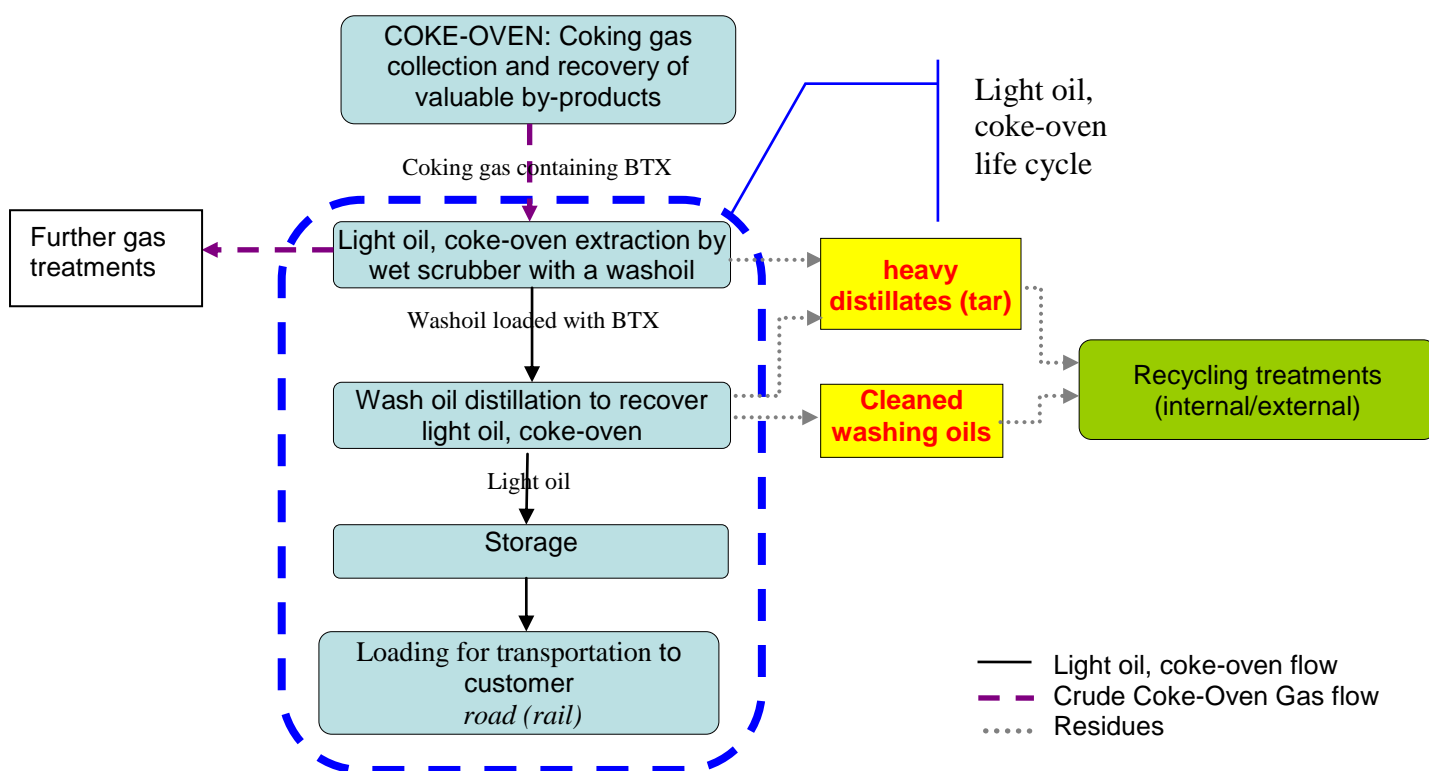
Risk Management Measures

Legal Entity: ISD Koksoló Kft
Site: ISD Koksoló Kft
Substance: Light oil (coal), coke-oven / 65996-78-3
Registration number: 01-2119519215-46-0039
Date: 15 December 2012

Information on risk management in a registration dossier of transported isolated intermediates

1. Brief description of technological process applied in manufacture of the intermediate

Picture 1. General scheme overview – Light oil, coke-oven production



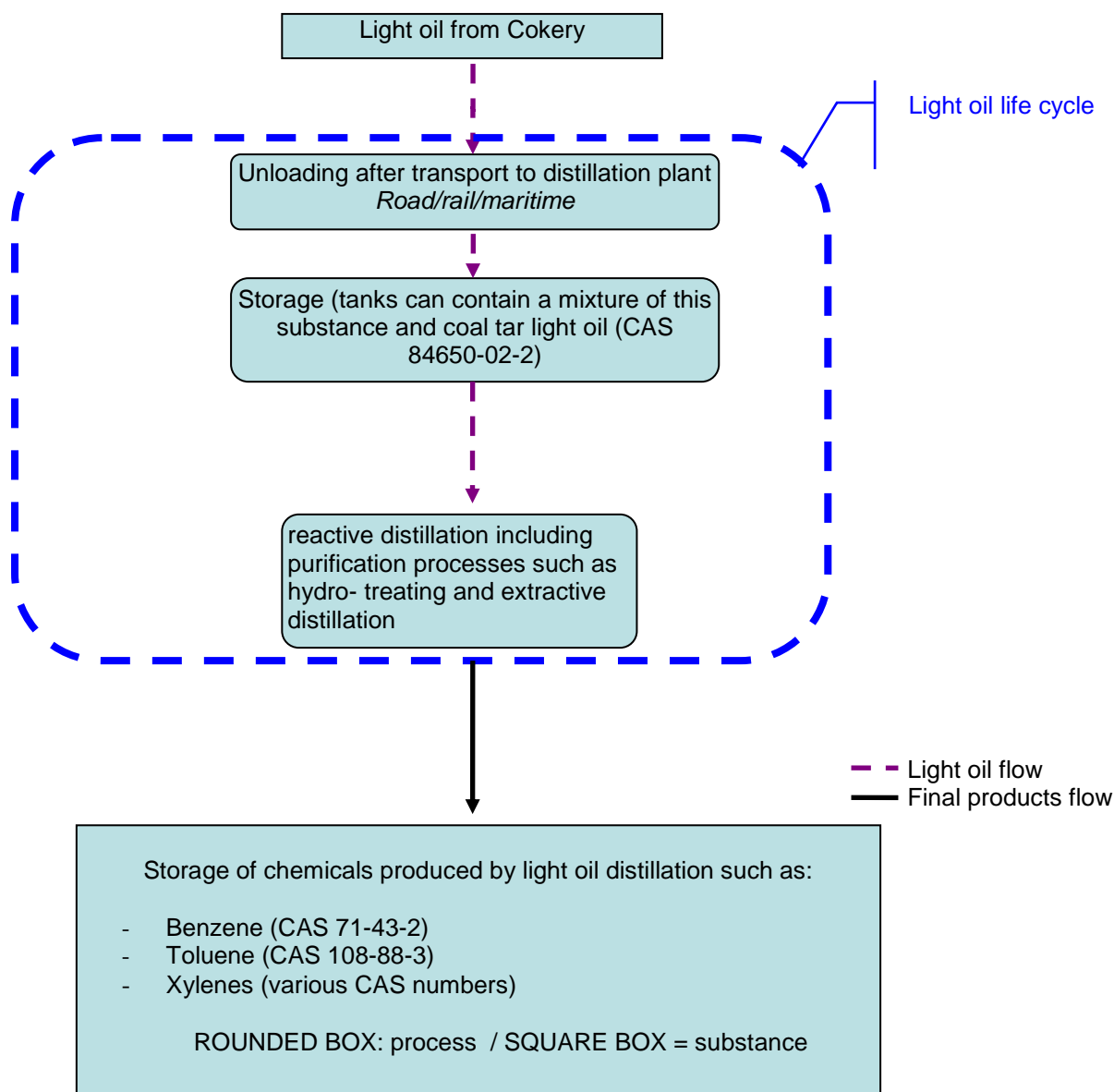
Description of the process according to the BREF:

The main method to recover light oil from the coke oven gas (COG) is the absorption with solvents, consisting of washing the COG with a petroleum wash oil, a coal tar fraction or other absorbent, followed by steam distillation of the enriched absorbent to recover the light oil [Best Available Techniques (BAT) Reference Document for Production of Iron and Steel - Draft June 2011, Chapter 5. Coke oven plants]

2. Brief description of technological process applied in use of the intermediate

2.1 Brief description of technological process applied in use of the UVCB substance light oil as raw material for the production (Benzole distillation) of several aromatic chemicals.

Picture 2. General scheme overview – Benzole distillation



Description of light oil distillation:

The light oil is generally received by road, rail or marine transport from which it is transferred to storage tanks by use of dedicated loading stations. From the storage tanks the light oil (CAS 84650-02-2 and/or CAS 65996-78-3) is pumped to the distillation unit where it is transformed into other substances.

Sampling can be performed on the enclosed transfer lines, loading stations or on the storage tanks. Cleaning is performed during planned maintenance shutdowns.

Recommended information		Light oil
3.a. Means of rigorous containment and minimisation technologies during the manufacturing process of light oil		
3a1	Description of technical means to rigorously contain the intermediate	Coke-oven gas treatment and by-product processing consist of closed processes [Best Available Techniques (BAT) Reference Document for Production of Iron and Steel - Draft June 2011, Chapter 5. Coke oven plants]
3a2	Identification of residual emissions to workplace and environment	<ul style="list-style-type: none"> - Fugitive emissions may occur from leakages of e.g pumps, valves, exhausters, pressure relief devices and losses during transfers [Best Available Techniques (BAT) Reference Document for Production of Iron and Steel - Draft June 2011, Chapter 5. Coke oven plants] - Air emissions: # Storage tanks # Loading/unloading
3a3	Description of procedural and control technologies in place to minimise emission and resulting exposure to workplace and to the environment	<ul style="list-style-type: none"> - Control of production process by trained operators - Follow-up of production parameters - Routine inspections for leaks to reduce fugitive emissions - Presence of concrete floor - Draining systems - Retention tanks/concrete trays - Low fugitive emission, hermetically sealed pumps - Storage tanks are equipped with a blanketing gas to prevent hazardous situations. - Hermetic loading point (with cone, seals...) equipped with vapor recovery. - Waste water treatment units: biological + decantation - Environmental emissions follow-up according to the IPPC permit - Air: air quality monitoring - Occupational worker exposure follow-up: workplace measurements and biomonitoring
3a4	Specify management means to ensure the rigorous containment and minimization of releases	<ul style="list-style-type: none"> - Additional fire-fighting measures: Cooling of the external walls of storage tanks in case of high ambient temperature - Standard Operational Procedures covering production, maintenance, samplings, cleaning, incidents, loading and accidents These procedures include health, safety and environmental data. - Risk assessment according to local regulations. A Hazard Identification and Risk Assessment (HIRA) is performed (periodical update). - Preventive maintenance: - Standard of inspections - Continuous improvement Other legislations/directives / certifications: - Environmental Certification: ISO 14001 - Quality Certification: ISO 9001 - SEVESO directive (Directive 96/82/EC) - Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work - Regulations on working with substances above flashpoint. Transportation regulations:

Recommended information		Light oil
		<ul style="list-style-type: none"> - Road transport: ADR, European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) (Rail transport: RID Regulations concerning the International Carriage of Dangerous Goods by Rails) Further information in the Guidance on Safe use and Safety Data Sheet.
3a5	Specify the training that contributes to the functioning of the technical means	<ul style="list-style-type: none"> - Periodical training on Standard Operational Procedures - Periodical Training on the Hazards of the substance - List of authorized personal working on the lifecycle of the substance as shown in picture 1. - Risk assessment according to local regulations
3b. Means of rigorous containment and minimisation technologies during the uses: Benzole distillation		
3b1	Description of technical means to rigorously contain the intermediate	<ul style="list-style-type: none"> - During loading: Use of dedicated loading stations equipped with a vapour return line or extraction - During analysis: the substance is handled under fume hoods or closed sampling points. - During storage: closed tanks equipped with nitrogen blanketing, flue gases are removed by an incinerator or equivalent off-gas treatment. Storage tanks are situated inside a bund with a capacity as determined by the applicable local regulations. Storage tanks are installed with a level gauge incorporating high and high-high level alarm. - Use of closed transfer lines with high integrity seals - Use of low emission or hermetically sealed pumps. - During maintenance and cleaning: Plant designed to facilitate draining and flushing of plant equipment.
3b2	Identification of residual emissions to workplace and environment	<ul style="list-style-type: none"> - Fugitive emissions may occur from e.g pumps, valves, exhausters, pressure relief devices and losses during transfers - Fugitive emissions may occur from: <ul style="list-style-type: none"> # Storage tanks # Process units # Unloading # Sampling Cleaning and maintenance may also result in increased emission levels.
3b3	Description of procedural and control technologies in place to minimise emission and resulting exposure to workplace and to the environment	<ul style="list-style-type: none"> - Control of production process by trained operators - Follow-up of production parameters - Routine inspections for leaks to reduce fugitive emissions - Presence of concrete floor under all equipment - Draining systems to purge for maintenance - Concrete bund or double wall storage tanks - Storage tanks are equipped with N₂ blanketing gas to control explosion/fire hazard. # Vent emissions capture: evaporation/displacement gases from storage are extracted and disposed of in a waste gas treatment (such as incineration) - Loading points with vapour return/extraction - Biological or physico-chemical (stripping, adsorption) WWTP based on BATNEEC.
3b3	(continued)	<ul style="list-style-type: none"> - Measurement plan in compliance with local regulation including parameters such as:

Recommended information		Light oil
		#Air: stack emissions and air quality #Air LDAR measurements according to EN 15446:2008 #Water: quality monitoring - Occupational worker exposure follow-up (workplace measurements and biomonitoring).
3b4	Specify management means to ensure the rigorous containment and minimization of releases	- Standard Operational Procedures covering production, maintenance, samplings, cleaning, incidents, loading and accidents These procedures include health, safety and environmental data. - Use of a permit to work system - Risk assessment according to local regulations- Preventive maintenance: standard of inspections Other legislations/directives / certifications: - Environmental Certification – ISO 14001 - Quality Certification - ISO 9001 - SEVESO directive - Directive 2008/1/EC concerning integrated pollution prevention and control - ATEX 137 [1999/92/EC] and ATEX 95 [94/9/EC] Transportation regulations: - Road transport: ADR, European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) - Rail transport: RID Regulations concerning the International Carriage of Dangerous Goods by Rails Further information is available in the Guidance on Safe use and the Safety Data Sheet. This safety data sheet is used to communicate safety information to the users of the substance.
3b5	Specify the training that contributes to the functioning of the technical means	- Periodical training on Standard Operational Procedures - Periodical Training on the Hazards of the substance - List of authorized personal working on the whole lifecycle of the substance - Risk assessment according to local regulations
4. Special procedures applied before cleaning and maintenance		
	Description of special procedures applied before entering the system	- Internal standard on confined spaces - Purging, flushing, venting procedures to prepare the unit before intrusive maintenance - Only authorized worker (permit to work) can have access to enter a unit - Measurement of Benzene/VOC concentration before opening/entering a unit. Risk assessment according to local regulations

Recommended information	Light oil
5. Describe activity and type of control measures to be applied in case of accidents, incidents, maintenance and cleaning activities	
Accident/incident/maintenance/cleaning works	<ul style="list-style-type: none"> - Emergency plan instructions for accidents & incidents. (including control measures and PPEs to be worn) - Leakages to the ground: Spread absorbent material in case of spillage, recycled internally or forward to waste treatment. Apply foam blanket to lower evaporation. - Risk assessment according to local regulations <p>This risk assessment lists all control measures (including general ventilation, PPE...). All new situations (incident, accident, maintenance...) are used.</p>
6. Waste information	
Process stage where waste are generated Brief description of on-site treatments	<ul style="list-style-type: none"> - There is no final waste. - Specify your different wastes and the associated valorisation process

This document was prepared by R4CC in 2012 according to ECHA recommendation (Ref.: ECHA-2010-G-17-EN) complying with Community law (Ref.: 1907/2006/EC), details have been included in the registration dossier (section 13: Assessment reports).