



WORLD LEADING TANK CLEANING COMPETENCE

TANK CLEANING GUIDE AND CARGO DATABASE

THEMES

MIRACLE tank cleaning guide

Cleaning Seminar

Dr. Verwey

MIRACLE

TANK CLEANING GUIDE AND CARGO DATABASE

All relevant data for a tank cleaning job can be extracted into one report called Tank Cleaning Plan. The MIRACLE Tank Cleaning Plan is in line with statutory and industry requirements (OCIMF, SIRE, CDI, ISGOTT and Chem Tanker Safety Guide).



Tanks to be cleaned
Cargo to be cleaned: **STYRENE MONOMER**
Cargo to be loaded: **METHANOL**
Tanks affected: **1,2,3,4,5**

Physical Properties @ 20°C

Density	0.906
Water-Solubility	0.029 (INSOLUBLE)
Melting Point	-31
Boiling Point	145
Vapour Pressure	0.006
Viscosity	0.75

Evaluation of Cargo Data

flammable cargo:
static accumulator:
Toxic cargo:
Requirements of cargo to be cleaned:
Requirements of cargo to be loaded:

Pollution Data
Annex: II
Category: Pollution Category II
Prewash Required: Prewash required

Prewash Calculation
Tank Volume [m³]: 1200
Residual Quantity [m³]: 10
Minimum water quantity for prewash:

Category X: Major hazard (Marine Pollutants)

Step Operation
1 Stripping to maximum extent possible
2 Prewash in accordance with the requirements of the cargo to be cleaned. For solidifying substances, solidifying or highly viscous substances, discharge residue to reception facilities.
3 Wash tank to commercial cleanliness

1. Distance from Land > 12 miles
2. Ship's speed > 7 knots
3. Water depth > 25 metres

Chemical Trade
Method 1 Cleaning to Vent/Mop/Dry

Step	Method	Time
1	Butterworth	30 minutes
2	Butterworth	15 hours to 20 hours
3	Rinse	20 minutes
4	Vent/Mop/Dry	

Method 2 Cleaning to Vent/Mop/Dry

Step	Method	Time
1	Butterworth	30 minutes
2	Butterworth	1 hour to 2 hours
3	Recirculation	1 hour to 2 hours
4	Rinse	20 minutes
5	Vent/Mop/Dry	

- Contains all Annex I and II cargoes (bulk liquid chemicals and petroleum products allowed for transportation on tankships)
- **Far above 10.000 cargoes, but easy to find by their names and synonyms**
- Physical and chemical properties
- **Tank cleaning recipes for cleaning to next cargo**
- **Special recipes for Clean Petroleum Products (CPP) Trade**
- **Tool for selection of alternative cleaners**
- Hazards and prevention measures
- Exposure limits and measurement tubes for toxic vapour cargoes
- MARPOL requirements
- IBC Code requirements
- Tank coating compatibility
- US Coast Guard compatibility requirements for adjacent cargoes
- FOSFA, NIOP, EU and CIQ previous cargo acceptance requirements
- Stowage data

Available as:

DVD-ROM (MIRACLE client) for users without continuous internet connection.

Online Database (web-based and continuously updated with newest information)

Free demo on <https://miracle.chemserve.eu>

CLEANING SEMINAR

BACKGROUND INFORMATION FOR IN DEPTH UNDERSTANDING

The Cleaning Seminar is a kind of Wikipedia for all sorts of questions around tank cleaning. The included search engine provides links to a comprehensive collection of themes, tables and many videos. All this is available online and also included in the DVD for local installation.



A good preparation of the cleaning operation will avoid tank rejections as well as incidents during the operation. In general the cleaning procedure can be determined from the product properties of the product to be cleaned, the surrounding conditions, the available equipment and the cleanliness requirements of the product to be loaded. The Cleaning Process section of the Cleaning Seminar describes in detail how a cleaning operation is properly planned and how a tank cleaning recipe and tank cleaning plan should be developed.



After tank cleaning has been accomplished it is mandatory to check the result. The intensity of the check depends on the cleaning standard that must be achieved. The tank inspection and Wall Wash Procedure is explained in all details including the typical tests. Complex test procedures, such as PTT test are even explained by means of videos.



Frequently occurring problems and proposals for solving are listed in this section. Examples are:

- White residues after cleaning of fatty acids or veg oils with high FFA content.
- Removal of inert gas residues
- Removal of inhibitor residues such as TBC or MEHQ

WORLD LEADING PROVIDER FOR TANK CLEANING SOLUTIONS

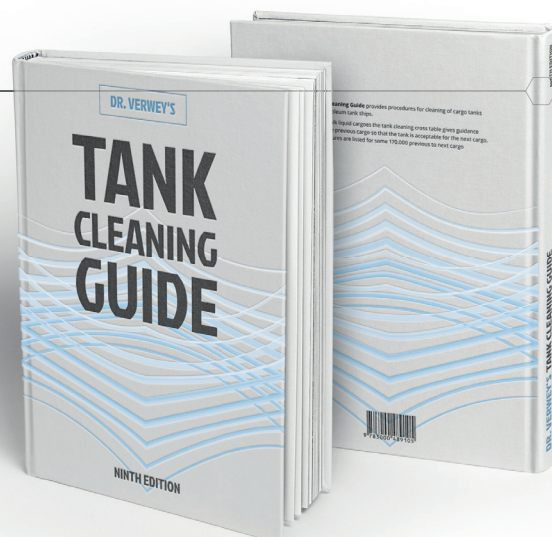
MIRACLE AND DR.VERWEY TANK CLEANING GUIDE BY CHEMSERVE



DR. VERWEY'S TANK CLEANING GUIDE

Dr. Verwey's Tank Cleaning Guide provides procedures for cleaning of cargo tanks on chemical and petroleum tank ships. For more than 400 bulk liquid cargoes the cross table gives guidance on how to clean from the previous cargo so that the tank is acceptable for the next cargo. Tank cleaning procedures are listed for some 170,000 previous to next cargo combinations.

This book is available from your nautical bookseller.



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