



Transport and Storage of Propellants: Procedure 4

Mexichem Fluor PRE-DELIVERY INSPECTION OF BULK STORAGE INSTALLATIONS

General

As part of Mexichem Fluor's overall service of providing efficient and problem free deliveries of ZEPHEX® propellants, a pre-delivery inspection of customer bulk storage installations can be undertaken prior to the first delivery.

Using the detailed checklist presented below all pertinent issues are assessed. In this way confidence is generated for both Mexichem Fluor and the ZEPHEX® customer that a robust and safe installation is available to receive the first, and subsequent, deliveries.

Checklist:

**MEXICHEM FLUOR CHECKLIST FOR CUSTOMER BULK STORAGE
TANK INSPECTION**

Mexichem Fluor Representative(s):

Date of visit:

1 GENERAL DETAILS

(a)	Customer Details
	Customer Address Phone Number Fax Number Customer Contact Name Customer Contact Title Product Product use

(b)	Consumption Data
	Estimate annual usage Estimate peak usage
	Delivery acceptance: • Monday - Thursday • Friday • Saturday • Sunday
	Can customer take delivery 24 hours a day?
	Customer product order contact • Name • Phone number • Fax number
	Order quantity
	Will customer accept a Certificate of Conformance?
	Will delivery vehicle be check weighed in/out?

(c)	General Information		
	Has approval for the installation been obtained from relevant authorities?	Y	N
	Has customer been sent Mexichem Fluor product data?	Y	N
	Can schematic diagram of installation be provided?	Y	N
	Can drawing of storage tank be provided?	Y	N
	How long has installation been in current service?		
	Has it been subject to a conversion?	Y	N
	What was it used for previously?		
	What was conversion procedure?		
	Would the storage tank be taken into account in the planning of any future site changes in its vicinity (change control)?	Y	N

2. INSTALLATION DETAILS

(a)	Tank Details		
	Tank number		
	Is the tank new or second hand?	N	S
	Tank manufacturer and year built		
	Capacity		
	Shape	H	V
	Temperature rating		
	Pressure rating		
	Test Pressure		
	Vacuum rating		
	Approval authority for tank		
	Date and type of last inspection		
	Tank design/fabrication code		
	Material of construction (e.g. carbon steel)		
	Tank lining		
	Is tank insulated?	Y	N
	Is tank earthed?	Y	N
	Type and adequacy of supports		
	Is there a product label on the tank?	Y	N
	What type of isolation valves are used: ball or globe	B	G
	Is liquid inlet in top or bottom of tank?	T	B
	• If bottom, is dip pipe fitted?	Y	N
	Is vapour inlet in top or bottom of tank?	T	B
	• If bottom, is dip pipe fitted?	Y	N

(b) Relief Details		
Type of relief (internal or external)	I	E
How many relief valves?		
Set Pressure		
Relief designed for		
• Fire	Y	N
• Pump over pressure	Y	N
• Thermal expansion	Y	N
Date of last test	Y	N
Can relief be isolated?	Y	N
Is valve preceded by bursting disc?	Y	N
• If disc fitted, is interspace between valve and disc monitored?	Y	N
Does valve vent to atmosphere (especially if tank is inside)	Y	N

(c) Tank Contents Indication and Other Instrumentation		
Is contents indicator fitted?	Y	N
• What type?		
• What is reading?		
• What method is there for detecting overfill?		
Is pressure gauge fitted?	Y	N
• What is pressure reading?	Y	N
Is temperature gauge fitted?	Y	N
What is temperature reading?	Y	N
Does tank have any other instrumentation?	Y	N
• Give details		
Telemetry:	Y	N
• Is telemetry being considered?		
• Re-order level		

(d)	Process Pipework
	<p>What equipment does the installation supply product to?</p> <ul style="list-style-type: none"> • Manufacturer's name • Charge size
	<p>If transfer is by pump</p> <ul style="list-style-type: none"> • Manufacturer • Model Number • Flow rate • Delivery Pressure
	<p>If transfer is other than by pump, specify</p> <ul style="list-style-type: none"> • Pipework details • Run details (location) • Return to tank or single feed pipework • Backflow protection • Emergency shut off valve • Earthing requirements

3. TANK LOCATION

(a)	Location																			
	<table border="1"> <tr> <td>Is the tank located outside?</td> <td>Y</td> <td>N</td> </tr> <tr> <td>Is the tank located below ground level?</td> <td>Y</td> <td>N</td> </tr> <tr> <td rowspan="3">If tank is located inside or below ground level, has consideration been given to:</td> <td>• Ventilation?</td> <td>Y</td> <td>N</td> </tr> <tr> <td>• Access controls and procedures?</td> <td>Y</td> <td>N</td> </tr> <tr> <td>• Alarms?</td> <td>Y</td> <td>N</td> </tr> <tr> <td>Is a site plan available?</td> <td>Y</td> <td>N</td> </tr> </table>	Is the tank located outside?	Y	N	Is the tank located below ground level?	Y	N	If tank is located inside or below ground level, has consideration been given to:	• Ventilation?	Y	N	• Access controls and procedures?	Y	N	• Alarms?	Y	N	Is a site plan available?	Y	N
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(b)	Adjacent Facilities																			
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(c)	General																			
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(d)	Access Details for deliveries		
	Are there any complications on public road access to gate?	Y	N
	Are there any complications on site route to/from the off-loading point?	Y	N

4. SAFETY

	Has the customer received a CSDS?	Y	N
	Is the customer aware of the hazards?	Y	N
	Does the site have a safety policy and plan?	Y	N
	Is PPE specified and available?	Y	N
	Is there an eye wash station?	Y	N
	Are there trained first aiders on the site?	Y	N
	If the tank is to be located inside or below ground level are there relevant safety procedures?	Y	N

5. OFFLOADING

(a)	Location		
	Is the off-loading point in a restricted area?	Y	N
	If not, • are controls in place to limit access during deliveries ?	Y	N
	• are controls in place to avoid tampering with valves etc.?	Y	N
	Is the off-loading point on level ground?	Y	N
	Is the off-loading point on or off the road?	On	Off
	Is the vehicle on or off the road at the off-loading point?	On	Off
	Is access to the off-loading point difficult?	Y	N
	Is the off-loading point a drive through, an enter or reverse in?	D, F or R	
	Is access to other traffic restricted during the off-loading (e.g. barriers)?	Y	N
	Is the off-loading point in a classified area (e.g. Zone 1 or Zone 2)?	Y	N
	Is there an earthing point for tanker offloading?	Y	N
	Are there adjacent off-loading points with the possibility of wrong connection?	Y	N
	Is there adequate artificial lighting at the off-loading point?	Y	N
	Can storage tank contents gauge be seen from offloading point?	Y	N
	Is there a good state of housekeeping in the area?	Y	N

(b)	Pumps		
	Will off-loading make use of trailer mounted pump?	Y	N
	If not, and customers pump to be used		
	<ul style="list-style-type: none"> • Pump manufacturer • Model • Flow rate 		
	Type and power rating of any electrical outlet		
(c)	Connections		
	Liquid Connection	F	S
	<ul style="list-style-type: none"> • Type of fitting: flanged or screwed • Size and dimensions 		
	• Distance from vehicle to connection (will standard 6m hose reach?)	Y	N
	• Is there a device to prevent backflow?	Y	N
	Vapour Connection	F	S
	<ul style="list-style-type: none"> • Type of fitting: flanged or screwed • Size and dimensions 		
	• Distance from vehicle to connection (will standard 6m hose reach?)	Y	N
	Are blanks fitted to connections?	Y	N
	Are there delivery hose vent points?	Y	N
	Are product labels fitted to connections?	Y	N
	Is pipework adequately supported?	Y	N
	Will pipework be protected against vehicle damage?	Y	N
	Isolation valve - type and size		
	Are there any actuated valves?		
(d)	Procedures		
	Are there local procedures for off-loading?	Y	N
	• If so are they displayed or available on request?	Y	N
	Should Mexichem Fluor supply off-loading procedure?	Y	N
	Will there be customer supervision throughout the delivery?	Y	N
	Are there any precaution cards on display?	Y	N
	Sampling: • Are samples to be taken before unloading?	Y	N
	<ul style="list-style-type: none"> • What is to be tested? • What is the analytical technique? 		
	• Are there written sampling procedures?	Y	N
	• Is the sampling by recirculation	Y	N



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