

# ISOPA TDI / MDI BULK DISCHARGE & STORAGE ASSESSMENT

## ISOPA MDI / TDI BULK DISCHARGE & STORAGE

Version July 2020



The information contained in this ISOPA MDI / TDI Bulk Discharge and Storage Assessment is believed to be accurate. ISOPA disclaims any liability in connection with the use of this information by its members. It is the responsibility of the member user to verify the accuracy of this information.

### Customer information

Assessed company:

Level 1	Standard / recommended according ISOPA guidelines
Level 2	Not in line with ISOPA Bulk
Level 3	Improvement highly recommended

Assessment of storage containing  MDI  
 TDI

1	Name	
2	Street + number	
3	Postal / Zip code	
4	City	
5	County	
6	Country	
7	Contact person	
8	Telephone number	
9	E-mail address	
10	Signature	

Assessor(s):

11	Name	
12	Company	
13	Name	
14	Company	
15	Date of assessment: dd-mm-yyyy	
16	Signature	

# ISOPA TDI / MDI BULK DISCHARGE & STORAGE ASSESSMENT

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### General Information

Assessed company location is certified for:

17	Quality	<input type="checkbox"/> ISO 9001 <input type="checkbox"/> ISO / TS 16949 <input type="checkbox"/> QS-9000 / VDA 6.1
18	Environment and/or Health & Safety	<input type="checkbox"/> ISO 14001 <input type="checkbox"/> EMAS <input type="checkbox"/> SCC / VCA <input type="checkbox"/> OHSAS 18001
19	Assessed company location falls within the scope of the Seveso II (96/82/EC ) or III Directive (2012/18/EU) or a national equivalent legislation?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown

### EHS

20	Visibility of EHS information	<input checked="" type="checkbox"/> Site shows clearly visible information about EHS subjects	<input type="checkbox"/> Some information visible at offices	<input type="checkbox"/> No information visible
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### Safety Data Sheet

21	Availability of latest version of SDS from supplying company	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
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Comments:

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### General Information

#### Location

22	Access road to customer location	<input type="radio"/> Straight / two lanes	<input type="radio"/> Narrow / two lanes without additional procedure	<input type="radio"/> Makes sharp bend and is narrow without additional procedure
23	Customer location	<input type="radio"/> Location is signposted and easy to find	<input type="radio"/> Location difficult to find	
24	Location of storage and production facility	<input type="radio"/> Industrial area	<input type="radio"/> Populated area with logistics and society procedures in place	<input type="radio"/> Populated area without logistics and society procedures in place

#### Housekeeping

25	Signs of previous spillage at discharge location	<input type="radio"/> No signs	<input type="radio"/> Some sign of spillage visible	<input type="radio"/> Several spillages visible
26	Signs of previous spillage at storage location	<input type="radio"/> No signs	<input type="radio"/> Some sign of spillage visible	<input type="radio"/> Several spillages visible
27	Housekeeping at entry of site	<input type="radio"/> Clean and tidy	<input type="radio"/> Untidy	<input type="radio"/> Dirty
28	Housekeeping discharge area	<input type="radio"/> Clean and tidy	<input type="radio"/> Untidy	<input type="radio"/> Dirty
29	Housekeeping storage location	<input type="radio"/> Clean and tidy	<input type="radio"/> Untidy	<input type="radio"/> Dirty

**Comments:**

# ISOPA TDI / MDI BULK DISCHARGE & STORAGE ASSESSMENT

## Protection and Hygiene

### Personal Protective Equipment

30	Goggles (MDI only)	<input checked="" type="radio"/> Used	<input checked="" type="radio"/> Available	<input checked="" type="radio"/> Not Available or safety glasses
31	Safety helmet	<input checked="" type="radio"/> Used	<input checked="" type="radio"/> Available	<input checked="" type="radio"/> Not Available
32	Chemical suit ( TDI ) - Overall (MDI)	<input checked="" type="radio"/> Used	<input checked="" type="radio"/> Available	<input checked="" type="radio"/> Not Available
33	Suitable impervious gloves	<input checked="" type="radio"/> Used	<input checked="" type="radio"/> Available	<input checked="" type="radio"/> Not Available
34	safety harness if no gantry available and anchor point	<input checked="" type="radio"/> Used		<input checked="" type="radio"/> Not available
35	Safety shoes / boots	<input checked="" type="radio"/> Used	<input checked="" type="radio"/> Available	<input checked="" type="radio"/> Not Available
36	Respiratory equipment/ face mask with appropriate filter for routine use (TDI only)	<input checked="" type="radio"/> Used in critical phases during unloading	<input checked="" type="radio"/> Available close to discharge point	<input checked="" type="radio"/> Not available
37	Escape Filter (for MDI)	<input checked="" type="radio"/> Directly available	<input checked="" type="radio"/> Available close to discharge point	<input checked="" type="radio"/> Not available
38	Additional respiratory equipment/ Self contained breathing apparatus for emergency	<input checked="" type="radio"/> Available and close to discharge point / storage tank	<input checked="" type="radio"/> Available within 15 min.	<input checked="" type="radio"/> Not available
39	System in place to manage filter lifetime	<input checked="" type="radio"/> Yes		<input checked="" type="radio"/> No

**Comments:**

# ISOPA MDI / TDI BULK DISCHARGE & STORAGE ASSESSMENT

## Protection and Hygiene

### Personal hygiene

### Segregation of areas

40	Cloth changing / washing area	<input type="radio"/> Segregated	<input type="radio"/> Not segregated
41	Eating / drinking area	<input type="radio"/> Segregated	<input type="radio"/> Not segregated
42	Smoking area	<input type="radio"/> Segregated	<input type="radio"/> Not segregated

### Industrial hygiene

43	Periodic monitoring of vapours for storage facilities indoor	<input type="radio"/> Frequent monitoring	<input type="radio"/> Incidental or no monitoring
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Comments:

# ISOPA TDI / MDI BULK DISCHARGE & STORAGE ASSESSMENT

## Reception and Documentation

### Reception

44	Location of reception	<input checked="" type="radio"/> At the gate	<input type="radio"/> At the discharge location	
45	Information about local procedures and instructions	<input checked="" type="radio"/> Clearly indicated and / or explained	<input type="radio"/> Instructions given but not clear	<input type="radio"/> No information given
46	Checking documents	<input checked="" type="radio"/> Delivery documents are checked at the gate and at discharge location	<input type="radio"/> Delivery documents are checked at discharge location	<input type="radio"/> No checks on documents are made
47	Identity check of driver	<input checked="" type="radio"/> Always checked	<input type="radio"/> Checked on ad-hoc basis	<input type="radio"/> Not checked
48	ISOPA driver certificates	<input checked="" type="radio"/> ISOPA driver certificates are checked	<input type="radio"/> ISOPA driver certificates are checked on ad-hoc basis	<input type="radio"/> ISOPA driver certificates are not checked

### Free space in storage tank

49	Check delivery volume against free storage space	<input checked="" type="radio"/> Checks are always done		<input type="radio"/> No checks are done
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### Cross contamination

50	Product identity check	<input checked="" type="radio"/> Checks are done on paper versus equipment	<input type="radio"/> Checks are only done on paper	<input type="radio"/> No checks are done
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### Site traffic

51	Routing on site	<input checked="" type="radio"/> Routing instructions given	<input type="radio"/> Limited routing signs available	<input type="radio"/> No routing instructions given
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### Sampling

52	Sample taking	<input checked="" type="radio"/> Samples are not taken	<input type="radio"/> Samples are taken from dedicated sampling point of the customer by the operator	<input type="radio"/> Samples are taken from road tanker, hose or samples taken by the driver
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Comments:

# ISOPA MDI / TDI BULK DISCHARGE & STORAGE ASSESSMENT

## Incident Management

### Product knowledge

53	Covering and educating on product specific risks and potential hazards	<input checked="" type="radio"/>	Regular training of staff, particularly in case of new employment or new products	<input type="radio"/>	Occasional training	<input type="radio"/>	No specific training
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### Emergency instructions

54	Emergency scenario developed and present (including PPE, waste disposal)	<input checked="" type="radio"/>	Yes	<input type="radio"/>	Yes but needs further clarification ( PPE, waste disposal ..)	<input type="radio"/>	No
55	Instruction for spillage	<input checked="" type="radio"/>	Clear instructions in the case of spillage available	<input type="radio"/>	Some info is available	<input type="radio"/>	No instructions available
56	Instructions for fire and other emergencies	<input checked="" type="radio"/>	Clear instructions available	<input type="radio"/>	Some info is available	<input type="radio"/>	No instructions available
57	Driver not involved in cleaning or emergency situations	<input checked="" type="radio"/>	Procedure in place	<input type="radio"/>		<input type="radio"/>	Driver to participate

### Emergency stop

58	Emergency stop for discharge	<input checked="" type="radio"/>	Emergency stop for discharge is automatic incl. valve / pushing button	<input type="radio"/>	Emergency stop via closing valve / pushing button	<input type="radio"/>	No emergency stops available
59	Access to emergency stop	<input checked="" type="radio"/>	Easy, unrestricted	<input type="radio"/>	Difficult	<input type="radio"/>	Emergency stop not accessible
60	Distance to emergency stop from vehicle	<input checked="" type="radio"/>	From 5 - 15 m	<input type="radio"/>	Less than 5 or more than 15 m	<input type="radio"/>	

### Emergency exits

61	Emergency exits available	<input checked="" type="radio"/>	2 or more emergency exits exist in all areas	<input type="radio"/>	Only one emergency exit exists	<input type="radio"/>	No emergency exit available
62	Emergency exits clearly marked	<input checked="" type="radio"/>	Yes and well lit	<input type="radio"/>		<input type="radio"/>	No

### Emergency alarms

63	Fire alarm	<input checked="" type="radio"/>	Present and periodically tested	<input type="radio"/>	Not present	<input type="radio"/>	
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**Comments:**

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### ISOPA MDI / TDI BULK DISCHARGE & STORAGE ASSESSMENT

#### Incident management

##### Emergency tools

64	Fire extinguishers	<input type="checkbox"/>	At least two fire extinguishers are present	<input type="checkbox"/>	Only one fire extinguisher present	<input type="checkbox"/>	No fire extinguishers present
65	Spillage absorbant	<input type="checkbox"/>	More than 200 litres of suitable absorbent present	<input type="checkbox"/>	Less than 200 litres of suitable absorbent present	<input type="checkbox"/>	No suitable absorbent available
66	Spillage decontaminant	<input type="checkbox"/>	More than 200 litres of suitable decontaminant present	<input type="checkbox"/>	Less than 200 litres of suitable decontaminant present	<input type="checkbox"/>	No suitable decontaminant present
67	Wind vane	<input type="checkbox"/>	well visible at unloading location	<input type="checkbox"/>	not in place	<input type="checkbox"/>	

##### Emergency organisation

68	Emergency response organisation	<input type="checkbox"/>	Organisation present ER exercises at least once a year for isocyanates	<input type="checkbox"/>	Organisation present ER exercise once a year	<input type="checkbox"/>	Organisation not present or No evidence of ER exercise
69	Reporting of incidents	<input type="checkbox"/>	Reporting of incidents done on a formal basis	<input type="checkbox"/>	No regular reporting done	<input type="checkbox"/>	No reporting done
70	Professional medical service available	<input type="checkbox"/>	Yes, on site - response time < 10 minutes and well informed about MDI/TDI	<input type="checkbox"/>	Local, response time > 10 minutes	<input type="checkbox"/>	

Comments:

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## Incident management

### Emergency showers / eye wash facility

71	Emergency shower available	<input type="checkbox"/> Yes		<input type="checkbox"/> No
72	Eye wash facility available	<input type="checkbox"/> Yes		<input type="checkbox"/> No
73	Distance safety shower(s) / Eye wash facility from point of discharge	<input type="checkbox"/> Less than 10 m , easy access	<input type="checkbox"/> Between 10 and 20 m	<input type="checkbox"/> More than 20 m and / or only accessible via several obstacles
74	Frost / Temperature protection	<input type="checkbox"/> Safety shower is frost protected Temperature of water does not give a risk to health	<input type="checkbox"/>	<input type="checkbox"/> No frost nor too high water tempertaure protection
75	Maintenance of safety shower / Eye wash facility	<input type="checkbox"/> Signs of regular maintenance are visible	<input type="checkbox"/>	<input type="checkbox"/> No sign of any maintenance
76	Safety shower and eye wash facility tested for 'Legionella'	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

**Comments:**

# ISOPA MDI / TDI BULK DISCHARGE & STORAGE ASSESSMENT

## Discharge area

### General

77	Discharge area under cover	<input checked="" type="radio"/>	Roof is present Discharge area is well protected	<input type="radio"/>	Some protection is present	<input type="radio"/>	No cover or protection/ Height to less
78	Quality of surface discharge area	<input checked="" type="radio"/>	Liquid tight , test on a regular basis	<input type="radio"/>	Slightly permeable	<input type="radio"/>	Permeable

### Rain water drainage

79	Rain water drainage	<input checked="" type="radio"/>	Closed sewer	<input type="radio"/>	Open sewer	<input type="radio"/>	No drainage
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### Collection of spilled product

80	Draining direction of spillage	<input checked="" type="radio"/>	Away from vehicle	<input type="radio"/>	Partially away from vehicle	<input type="radio"/>	Around vehicle
81	Containment of spillage	<input checked="" type="radio"/>	Containment not connected with sewer system	<input type="radio"/>	Containment with closed valve / drain to sewer system	<input type="radio"/>	No containment
82	Containment of spillage	<input checked="" type="radio"/>	Containment sufficient for one full tank sewer system	<input type="radio"/>		<input type="radio"/>	containment less than one full truck

### Vehicle

83	Position of bulk vehicle	<input checked="" type="radio"/>	Horizontal	<input type="radio"/>	inclination	<input type="radio"/>	
84	Vehicle movement protection	<input checked="" type="radio"/>	Wheel chocks (2) used	<input type="radio"/>		<input type="radio"/>	No wheel chocks used
85	Prevent driving off with connected hoses	<input checked="" type="radio"/>	securing keys / using a barrier / stop sign	<input type="radio"/>	nothing in place	<input type="radio"/>	
86	Vehicle access / exit	<input checked="" type="radio"/>	No restrictions	<input type="radio"/>	Access road has width of at least one vehicle Reversing necessary	<input type="radio"/>	No access road

**Comments:**

# ISOPA MDI / TDI BULK DISCHARGE & STORAGE ASSESSMENT

## Discharge area

### Instructions / management

87	Availability discharge instructions	<input checked="" type="radio"/> Available , displayed and trained		<input checked="" type="radio"/> Not available or not displayed
88	Unloading operation is done according to a written check list	<input checked="" type="radio"/> Yes, always used	<input checked="" type="radio"/> Available but not regularly used	<input checked="" type="radio"/> No checklist available
89	Type of discharge instructions	<input checked="" type="radio"/> Using pictures/ icons/ supported by text in various languages and be displayed at discharge location	<input checked="" type="radio"/> using text in several languages and be displayed at discharge location	<input checked="" type="radio"/> only local language and not displayed at discharge location
90	Traffic management plan	<input checked="" type="radio"/> Management plan in place		<input checked="" type="radio"/> No management plan

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## Discharge installation

### General

91	Separated unloading for diisocyanates and other chemicals	<input checked="" type="radio"/>	Yes	<input type="radio"/>	No
92	Customer is prepared for top discharging	<input checked="" type="radio"/>	Yes	<input type="radio"/>	No

### Labeling

93	Discharge connections	<input checked="" type="radio"/>	All connections are clearly labelled and visible	<input type="radio"/>	Some labelling is present but not very clear	<input type="radio"/>	No labelling is present
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### Connectors

94	Coupling	<input checked="" type="radio"/>	DN50 flange	<input type="radio"/>	Other DN and customer has adaptors to DN50	<input type="radio"/>	Other DN and customer has no adaptors
95	Connection piece(s)	<input checked="" type="radio"/>	No connection pieces are used	<input type="radio"/>	One or more connection piece is used		
96	Risk of mixing with other product(s)	<input checked="" type="radio"/>	No			<input type="radio"/>	Yes

**Comments:**

# ISOPA MDI / TDI BULK DISCHARGE & STORAGE ASSESSMENT

## Discharge installation

### Discharge method

97	Type of discharge	<input checked="" type="radio"/> Pump	<input type="radio"/> Nitrogen or dry air	<input type="radio"/> Compressed air from truck
98	Pump type	<input checked="" type="radio"/> sealless type	<input type="radio"/> Mechanical seal pump	
99	Vapour return line if pump discharge	<input checked="" type="radio"/> Is present, of good quality and is routinely used	<input type="radio"/> Is present but size and/or quality is suspect	<input type="radio"/> No vapour return line present
100	Vapour flow rate monitoring if vapour return line present	<input checked="" type="radio"/> Is present and stops discharging in case of no indication of flow	<input type="radio"/> Is present or manually monitored	<input type="radio"/> No vapour flow rate monitoring present and no other control to adequacy of vapour return line
101	Pressure discharge	<input checked="" type="radio"/> Protection for overpressure P max =		<input type="radio"/> No overpressure protection
102	Discharge by pressure	<input checked="" type="radio"/> Pressure in the container released to 0.1 Bar max via the storage tank		<input type="radio"/> No pressure release or by venting the container to the atmosphere

### Discharge platform (fix or mobile)

103	Construction	<input checked="" type="radio"/> Discharge platform with stairs and fall protection or 360 ° cage	<input type="radio"/> Discharge platform without fall protection or if no platform safety harness and anchor point available	<input type="radio"/> No platform available/ doubts about fall protection
104	Access to top of bulk equipment	<input checked="" type="radio"/> Safe access without restrictions	<input type="radio"/> Narrow access	<input type="radio"/> Acces via bulk equipment without fall protection

### Discharge device

105	Way of discharge	<input checked="" type="radio"/> Unloading arm	<input type="radio"/> Flexible hose	
106	Hose lifting (if hose )	<input checked="" type="radio"/> Lifting device which can be operated by one person	<input type="radio"/> Lifting device to be operated by two persons	<input type="radio"/> No lifting device present
107	Hose length	<input checked="" type="radio"/> Hose length is functional for discharge application	<input type="radio"/> Slightly short / long hose resulting in unnecessary bending or manoeuvring with vehicle	<input type="radio"/> Hose length above 10 m or too short to allow safe connection

Comments:

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## Discharge installation

### Discharge device

108	Loading arm or hose size	<input checked="" type="radio"/> 2 inch	<input type="radio"/> Not 2 inch	
109	Hose ownership ( if hose )	<input checked="" type="radio"/> Customer owned		<input type="radio"/> Haulier owned
110	Hose usage	<input checked="" type="radio"/> Dedicated to product		<input type="radio"/> Non-dedicated to product
111	Hose quality (inside & outside)	<input checked="" type="radio"/> Good, both inside and outside/ hose material fits to product	<input type="radio"/> Some signs of inside fouling, doubts about hose material	<input type="radio"/> Fouled and / or damaged / unsuitable hose material
112	Hose capping	<input checked="" type="radio"/> Hose capped with blind flange on both sides or fixed connected with blind flange on the unmounted side	<input type="radio"/> Hose capping insufficiently	<input type="radio"/> Hose not capped
113	Hose storage	<input checked="" type="radio"/> Hose stored inside under dry conditions	<input type="radio"/> Hose stored under cover	<input type="radio"/> Hose stored in open air
114	Hose inspection (visual)	<input checked="" type="radio"/> Hose shows signs of regular inspection (tagging)	<input type="radio"/> Hoses are inspected but evidence is not directly visible	<input type="radio"/> No hose inspection takes place
115	Pressure testing of hose connections to the truck/container prior to discharge	<input checked="" type="radio"/> Done according to procedure and testing using leak detection tool (e.g. Leak spray, pressure gauche)	<input type="radio"/>	<input type="radio"/> No pressure testing

### Vapour return hose (for pump discharge only)

116	Hose size	<input checked="" type="radio"/> 2 inch (DN50)	<input type="radio"/> Between 1 and 2 inch (DN25 and 50)	<input type="radio"/> Lower or equal than 1 inch (DN25)
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### Lighting

117	Lighting at discharge location	<input checked="" type="radio"/> Good		<input type="radio"/> Insufficient
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### Cooperation driver/operator

118	Connections / disconnections	<input checked="" type="radio"/> Done by the operator, driver potentially supports, both following a 4-eyes principle	<input type="radio"/> Driver makes the connection at the truck and operator at the facilities	<input type="radio"/> Done by driver alone
119	Presence during discharge	<input checked="" type="radio"/> Driver has role in connecting /disconnecting hoses	<input type="radio"/> Present but has no active role	<input type="radio"/> Driver not

**Comments:**

# ISOPA TDI / MDI BULK DISCHARGE & STORAGE ASSESSMENT

## Storage tank

### Size

120	Storage tank size	<input type="radio"/>	More than one truck load	<input type="radio"/>	Less than one truck load
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### Containment

121	Bundling	<input type="radio"/>	Bund is present and capable to store largest tank volume. Bund has no cracks. Diisocyanates and other chemicals in separate bund	<input type="radio"/>	Bund is present but doubts about bund content. Bund has cracks. Diisocyanates and other chemicals tanks in one bund	<input type="radio"/>	No bunding present
122	Draining of banded area	<input type="radio"/>	Draining of bund via installed pump	<input type="radio"/>	Draining via (normally closed) valve	<input type="radio"/>	No containment

### Equipment

123	Quality of tank	<input type="radio"/>	New or well maintained	<input type="radio"/>	Some signs of lack of maintenance of older equipment	<input type="radio"/>	Poor quality with lack of maintenance
124	Quality of lines	<input type="radio"/>	New or well maintained	<input type="radio"/>	Some signs of lack of maintenance of older equipment	<input type="radio"/>	Poor quality with lack of maintenance
125	Quality of instrumentation	<input type="radio"/>	New or well maintained	<input type="radio"/>	Some signs of lack of maintenance of older equipment	<input type="radio"/>	Poor quality with lack of maintenance

### Temperature

126	Measurement	<input type="radio"/>	Temperature measurement inside tank Clear readability	<input type="radio"/>	External measurement	<input type="radio"/>	No measurement
127	Temperature control	<input type="radio"/>	Temperature measurement inside tank with automatic control or tank in heated storage room	<input type="radio"/>	Manual control of temperature	<input type="radio"/>	No temperature control
128	Heat transfer medium	<input type="radio"/>	Suitable electrical tracing or oil heating	<input type="radio"/>	water with safety heat exchanger	<input type="radio"/>	water with standard heat exchanger

### Comments:

# ISOPA MDI / TDI BULK DISCHARGE & STORAGE ASSESSMENT

## Storage tank

### Circulation / mixing

129	Circulation	<input checked="" type="radio"/> Circulation by pump	<input type="radio"/> Circulation by agitator	<input type="radio"/> No mixing possible
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### Pressure

130	Measurement	<input checked="" type="radio"/> Pressure indication Visible from discharge location	<input type="radio"/> Pressure indication Only visible after climbing to top of storage tank	<input type="radio"/> No pressure indication available
131	Control	<input checked="" type="radio"/> Over and under pressure control	<input type="radio"/> No control	
132	Protection	<input checked="" type="radio"/> Safety equipment for under and overpressure is installed and well maintained		<input type="radio"/> No protection installed
133	Alarm	<input checked="" type="radio"/> Present		<input type="radio"/> Not present

### Vapour quality

134	Inlet gas quality	<input checked="" type="radio"/> Nitrogen / dry air with demonstrated quality	<input type="radio"/> Doubt about quality of inlet gas	<input type="radio"/> Inlet of ambient air
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### Building

135	Ventilation of storage building	<input checked="" type="radio"/> Good ventilation of building	<input type="radio"/> Some ventilation exists but effect doubted	<input type="radio"/> No ventilation present
136	Lighting	<input checked="" type="radio"/> Good		<input type="radio"/> Insufficient

### Piping

137	Labeling	<input checked="" type="radio"/> All pipes properly labeled with product name and flow direction	<input type="radio"/> No labeling	
138	Condition	<input checked="" type="radio"/> In good condition		<input type="radio"/> In bad condition
139	Insulation	<input checked="" type="radio"/> In good condition	<input type="radio"/> Insulation not present	

**Comments:**

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## Storage tank

### Pump

140	Pump type	<input checked="" type="radio"/> sealless type - well maintained	<input type="radio"/> Some sign of lack of maintenance	
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### Filtration

141	Filter	<input checked="" type="radio"/> Sufficient size filter present and of good quality	<input type="radio"/> Bag filter for polymeric isocyanates or filter types which not consider viscosity and product characteristics	<input type="radio"/> No filter present
142	Filter(s) cleaned / changed frequently	<input checked="" type="radio"/> Yes	<input type="radio"/> No	

### Level

143	Indication	<input checked="" type="radio"/> Reliable level indication		<input type="radio"/> No level indication
144	Side glass level indication	<input checked="" type="radio"/> Not present	<input type="radio"/> Protected side glass present	<input type="radio"/> Unprotected side glass present
145	High level protection	<input checked="" type="radio"/> High level alarm via level instrument and independent level switch	<input type="radio"/> High level alarm via level instrument	<input type="radio"/> No high level alarm
146	High level alarm function	<input checked="" type="radio"/> High level stops the discharge	<input type="radio"/> Acoustical or optical alarm but no automatic action	<input type="radio"/> No function
147	Visibility of level indication	<input checked="" type="radio"/> Visible from discharge location <input checked="" type="radio"/> Visible from control room	<input type="radio"/> Level indication only visible close to storage tank	<input type="radio"/> Level indication only visible after climbing on storage tank

### Venting of storage

148	Direction	<input checked="" type="radio"/> Storage vents to safe location outside storage area	<input type="radio"/> Storage vents to area where occasionally personnel is present	<input type="radio"/> Storage vents inside storage building or to location where personnel is working
149	Avoidance of cross contamination	<input checked="" type="radio"/> Venting via separate lines <input checked="" type="radio"/> No connection with other storage tanks		<input type="radio"/> Venting line in combination with venting of other storages
150	Vapour treatment	<input checked="" type="radio"/> Present	<input type="radio"/> Not present	

**Comments:**

## Risk Management & Management of Change

### Risk analysis

151	Risk analysis of installation	<input checked="" type="radio"/> Yes, specify method used....	<input type="radio"/> Internal procedure	<input type="radio"/> No special risk analysis
152	Done by	<input checked="" type="radio"/> Expert team or specialist staff	<input type="radio"/> Staff	
153	Documented	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
154	Last update dd/mm/yyyy			

### Management of Change

155	Risk analysis prior to changes	<input checked="" type="radio"/> Yes, specify method used....	<input type="radio"/> Internal procedure	<input type="radio"/> No
156	Written procedures for changes	<input checked="" type="radio"/> Yes		<input type="radio"/> No
157	Responsibility for written procedures & changes	<input checked="" type="radio"/> Expert team	<input type="radio"/> Specialist staff / Other	

### Repair & maintenance

158	Regular check of safety equipment	<input checked="" type="radio"/> Yes, implementation of regular checks, according results of risk analysis	<input type="radio"/> Occasional checks	<input type="radio"/> No checks
159	Qualified maintenance providers	<input checked="" type="radio"/> Use of professional, qualified providers or specialist staff with product-knowledge and experience	<input type="radio"/> Staff or provider without special experience	
160	Permit procedures for hazardous work used	<input checked="" type="radio"/> Always	<input type="radio"/> Rarely	<input type="radio"/> Permit procedures not used

**Comments:**