

Product Safety Report

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Linde Material Handling GmbH / Liquified Petroleum Gas (LPG) powered industrial lift trucks / Various Models		
Aspect	Details	
Images		
PSD Number	2305-0163	
Product Type	Machinery – Industrial Lift Truck	
Product Identifiers	Lift trucks with the IMPCO C-Series vaporiser manufactured by EControls BV installed as part of the trucks fuel system are affected. This includes some Linde lift trucks. Users of Linde lift trucks should refer to the 12 character serial number given on the manufacturers identification plate. Where the composition is as follows: XX XXXX X XXXXX Sequential number 19 Year (see also Table 2) e.g. X391 (Y391 from 01.01.2022) / 1152 / 1283 / 2853 / 4525 Exception: STILL Type-code e.g. 6321 for RX60 Production site (see Table 3) 29 Examples: Linde Material Handling: H2X391X00001 / STILL: 516321X00001 Affected Linde lift trucks have serial numbers starting with the first seven characters as follows: H2X391x where x equals G, H, J, V, X, or Y PKX391x where x equals Y PKY391x where x equals L or M up to serial range PKY391M5 H2X392x where x equals G (in case higher than G000408), H, J, V or X H2X393x where x equals G (in case higher than G000759), H, J, V or X H2X394x where x equals G (in case higher than G000038), H, J, V, X or Y H2X394x where x equals G (in case higher than G000038), H, J, V, X or Y H2X394x where x equals G (in case higher than G000038), H, J, V, X or Y	

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Product Safety Report

	H2X396x where x equals G, H, J, V, X or Y
Product Description	Liquified Petroleum Gas (LPG) powered industrial lift trucks
Country of Origin	Germany
Counterfeit	No
Risk Level	High
Risk Type	Fire
Risk Description	Owners, users and other persons supplying, inspecting and maintaining these LPG powered vehicles are being alerted to the risk of fire when presented with a non-starting engine. Although these trucks had operated for many years without issue a build-up of deposits in fuel systems of some LPG powered vehicles, in particular those fitted with IMPCO C-series vaporiser units, has led to several fires. Deposits in vaporiser units, flow regulators and shut off valves are also causing trucks to fail to start, particularly from cold. The cause of these deposits appears to be related to variation in the composition of LPG fuel which has been distributed in some regions of Great Britain. The 391, 392, 393, 394 and 396 series LPG industrial lift trucks manufactured by Linde GmbH with serial numbers as listed above have been identified as one of a number of manufacturers' models known to be fitted with the IMPCO C-Series vaporiser in their fuel systems, which are particularly affected. Any other industrial lift truck or other LPG powered vehicle fitted with the IMPCO C-Series vaporisers manufactured by EControls Europe BV, either as originally supplied or as a replacement part, may also present a risk of fire. The particular design of the IMPCO C-Series vaporiser means that the build-up of deposits caused by some LPG fuel can lead to sticking valves resulting in the fuel mixture supplied to the engine being too rich to be ignited. Repeated starting attempts can then result in the release of unburned LPG, which in extreme cases can be ignited setting fire to the vehicle and surrounding materials.
Corrective Measures	Linde has contacted known owners and suppliers of affected lift trucks to warn them of the risks and provide guidance on how to reduce and mitigate risks. Linde have also completed a programme of voluntary corrective action to retro-fit a fuel system modification kit. Users should note that although the kit will reduce the likelihood and mitigate the consequences of a fire occurring, the risk is not completely eliminated. Users should continue to exercise caution and follow the advice given by the manufacturer. Any owners or users of affected Linde lift trucks who have not been contacted are advised to contact Linde or the supplying dealer for further advice. The Health and Safety Executive (HSE) has issued a safety notice informing users and persons supplying, inspecting and maintaining LPG powered

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Product Safety Report

	vehicles of the risk of fire in certain conditions and measures to take. This can be accessed from:
	https://www.hse.gov.uk/safetybulletins/forklift-fires.htm
	Users of any other industrial lift truck or other LPG powered vehicle fitted with the IMPCO C-Series vaporiser are also advised to contact the manufacturer or supplying dealer for further advice.
	Owners and users of other makes and models of LPG-powered lift trucks and vehicles incorporating other vaporiser designs may also experience fuel system problems due to LPG composition and should take note of the general advice given.
Online Marketplace	Not applicable
Notifier	Health and Safety Executive