



OPRYSKIWACZ
WÓZKOWY

CART PRESSURE
SPRAYER

ОПРЫСКИВАТЕЛЬ
НА КОЛЕСАХ

INSTRUKCJA OBSŁUGI

OWNER MANUAL

MX 20

ИНСТРУКЦИЯ ПО ЭКСПЛУАТАЦИИ

055/PL_GB_RUS/2011/A

pieczęć sprzedawcy i data
stamp of the retailer and the date

data i печать продавца

opis wady
description of the fault

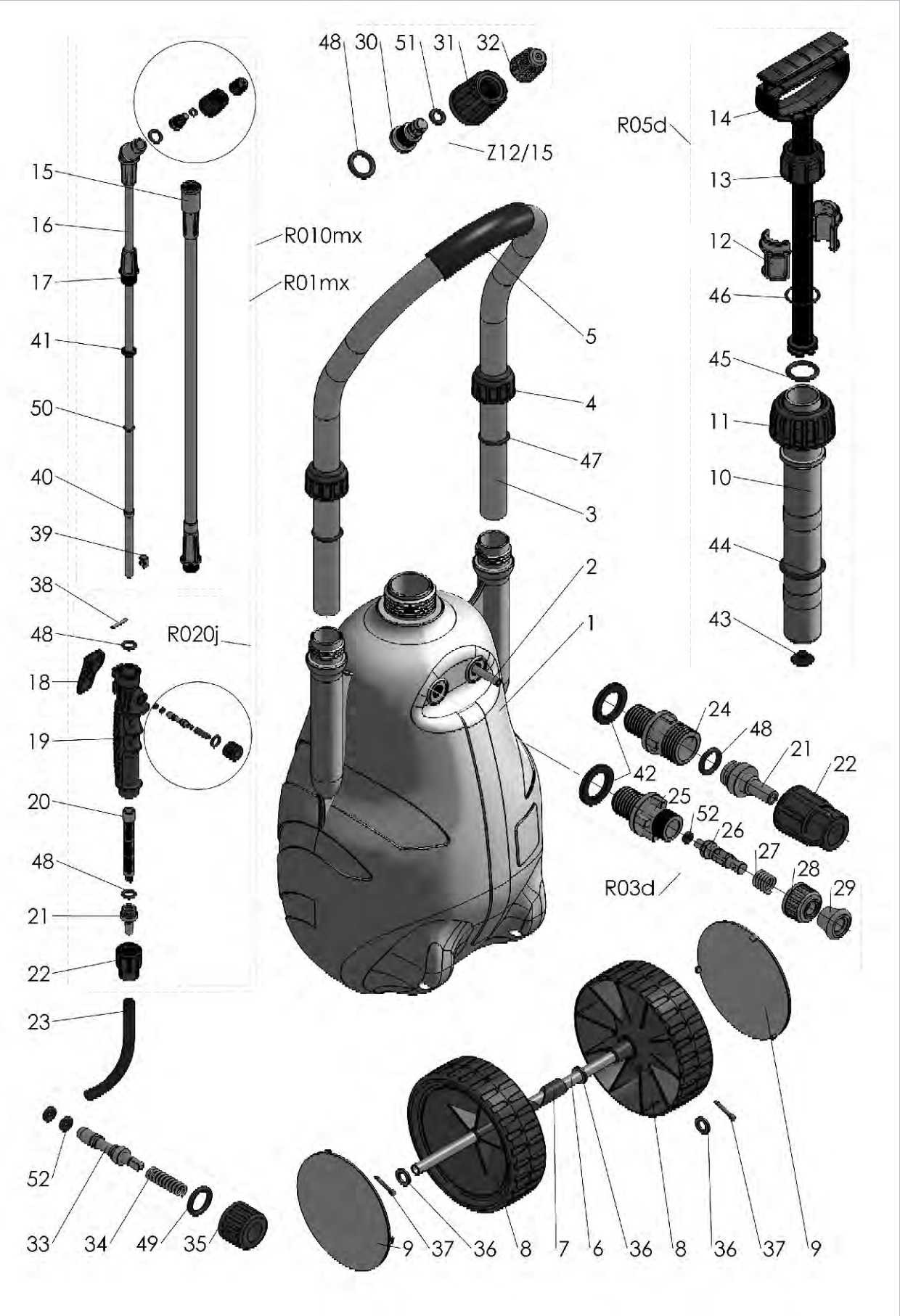
описание дефектов

KARTA GWARANCYJNA
GUARANTEE CARD
ГАРАНТИЙНЫЙ ТАЛОН

data naprawy
date of the repair

дата ремонта

Lanca teleskopowa z rączką Telescopic lance with handle / Телескоп. штанга с рукояткой		R010mx
Lanca teleskopowa bez rączki Telescopic lance without handle / Телескоп. штанга без рукоятки		R01mx
Zawór bezpieczeństwa Safety valve / Предохранительный клапан		R03d
Zestaw końcówka lancy z MR1,5 Lance tip with nozzle MR1.5 / Наконечник для штанги с MR1,5		Z12/15
Rączka lancy zintegrowana z zaworem dozującym kpl. Feeding valve integrated with handle / Компл. рукоятка штанги интегрированная с дозирующим клапаном		R020j
Pompa kompletna Complete pump / Комплектный насос		R05d
1	Zbiornik MX 20 / Container MX 20 / Бачок MX 20	R170mx
2	Rurka zasysająca / Sucking pipe / Трубка засасывающая жидкость	M08-20
3	Uchwyt do MX 20 / Grip for MX20 / Рукоятка для MX 20	M20
4	Nakrętka uchwytu / Grip's nut / Гайка рукоятки	R173mx
5	Nakładka uchwytu / Grip's overlay / Накладка рукоятки	M25
6	Oś 37cm / Axis / Ось	M17s12
7	Tulejka dystansowa / Spacing sleeve / Дистанционная втулка	M24
8	Kółko / Wheel / Колесо	R172mx
9	Dekielek kółka / Wheel's cap / Крышка колеса	R171mx
10	Cylinder pompy / Pump cylinder / Цилиндр насоса	R19f
11	Nakrętka zbiornika / Container cap / Гайка бачка	R15
12	Półtulejka tłoczyska / Piston half-case / Половинка втулки поршня	R147
13	Nakrętka pompy / Pump nut / Гайка насоса	R12a
14	Tłoczek pompy / Pump piston / Поршень насоса	R20u
15	Lanca obtrysk., fi 12 mm / Lance pipe., fi 12 mm / Штанга, fi 12 mm	R73nx50
16	Lanca obtrysk., fi 8 mm / Lance pipe., fi 8 mm / Штанга, fi 8 mm	R73mx60
17	Tulejka zaciskowa, fi 8 mm / Clasp faucet, fi 8 mm / Зажимная втулка, fi 8 mm	R103
18	Przycisk zaworu dozującego / Feeding valve trigger / Кнопка дозирующего клапана	R44
19	Rączka lancy / Lance handle / Рукоятка штанги	R02j
20	Filterek / Filter / Фильтр	R40
21	Końcówka węża, sztucerek / Hose end piston / Патрубок шланга	R81e
22	Nakrętka węża / Hose nut / Гайка шланга	R80e
23	Wąż / Hose / Шланг	R011d
24	Króciec przewodu / Hose stub pipe / Патрубок шланга	R82c
25	Korpus zaworu bezpieczeństwa / Safety valve body / Корпус предохранительного клапана	R82d
26	Zawór bezpieczeństwa - popychacz / Safety valve - shank / Стержень предопр. клапана	R98
27	Sprężynka / Spring / Пружинка	R13n
28	Nakrętka M-16 / Nut M-16 / Гайка M-16	R26
29	Zawór bezp. – uchwyt / Safety valve – handle / Ручка предопр. клапана	R100
30	Rdzeń dyszy / Nozzle nucleus / Стержень форсунки	R114
31	Nakrętka dyszy / Nozzle nut / Гайка форсунки	R64
32	Nakrętka dyszy 1.5 do MR / Nozzle 1.5 nut for MR / Гайка форсунки 1.5 для MR	R115_1.5
33	Tłoczek / Piston / Поршеньёк	R43
34	Sprężynka / Spring / Пружинка	R48a
35	Nakrętka bez otworu / Nut without hole / Гайка без отверстия	R50
36	Podkładka fi 12 mm / Washer fi 12 mm / Подкладка fi 12 mm	
37	Zawlecзка / Cotter / Шплинт	
38	Pręt mosiężny, fi 3 mm / Brass bar, fi 3 mm / Латунный прут, fi 3 mm	M11
39	Pierścień zapinka lancy / Lance ring clasp / Цепной замок штанги	R107
40	Tulejka teleskopu / Telescope ring faucet / Втулка телескоп. штанги	R109
41	Pierścień zaciskowy / Clasp ring / Зажимное кольцо	R106
42	Uszczelka 16x24 / Seal 16x24 / Прокладка 16x24	R17
43	Grzybek gumowy / Pump rubber valve-cap / Запорный клапан насоса	R24
44	O-ring 38x5	R14
45	O-ring 28x4	R22
46	O-ring 28x2	R22a



47	O-ring 24,99x3,53	R27
48	O-ring 11,3x2,4	R47c
49	O-ring 10x2	R41
50	O-ring 8x2	R108
51	O-ring 5,3x2	R116
52	O-ring 3x2	R42

CART PRESSURE SPRAYER
WITH TELESCOPIC LANCE

MX 20

MX 20 device is a pressure sprayer with a total capacity of 20 liters equipped in large and stable wheels, and a soft and comfortable grip for pulling (individually adjusted to the user's height). Its innovative design allows long-term operation without straining the spine what can be particularly appreciated by women and the elderly. The sprayer is designed for protecting treatments in gardens, orchards, plantations, vineyards and for sprayings against weeds and pests.

1. TECHNICAL SPECIFICATIONS

MX 20	
Total container capacity	20.00 l
Working container capacity	18.00 l
Average liquid output	0.1 - 0.3 litr/min
Maximum working pressure	0.4 MPa (4 bar) (60 PSI)
Overpressure protection	Safety valve R03d
Net weight	4,40 kg
Container material	polypropylene

2. SPRAYER'S EQUIPMENT

- In each packing of MX 20 you can find:
1. Complete sprayer with wheels, pump, hose and lance handle with feeding valve
 2. Telescopic lance with adjustable nozzle MR1.5 and MR1.0
 3. Grip with soft overlay
 4. Funnel with sieve
 5. Silicon lubricant in a phial, O-ring R47c
 6. User manual

The Marolex Comapany has a right to change the equipment.

3. PREPARING AND OPERATING INSTRUCTIONS

1. In the first trial it is recommended to use the clean water. After filling the container in, put the pump in and screw it in properly. Pump the container and check the safety valve by pulling its handle up (R100).
2. Prepare the spraying liquid according to the instructions given on the chemicals' packaging.
3. Screw the lance into the case of the feeding valve R020j and make sure that there's an o-ring 11,3x2,4 (R47c) inside the valve.
4. Unscrew the pump and pour liquid into the container using a funnel.
5. Put the pump back in, screw the pumps screw cap tight and pump until you get the right spraying or the safety valve opens. If the pressure is too high the safety valve will automatically open and release the excess air.
6. Adjust the length of the telescopic lance and screw tight the locking sleeve, so the lance won't extend under pressure - fig.4.
7. After filling in the tank and pumping it to its maximum pressure, the sprayer can be used and at the same time moved on the ground, thanks to its broad and stable wheels.
8. While holding the lance handle, press the button to open the feeding valve.
9. When necessary, you can increase the pressure by further pumping up.

4. USAGE RECOMMENDATIONS

1. During the operation don't place the sprayer on its side, as the air, not liquid will be sucked in.
2. **It is not recommended to fill the container in over the working capacity.**
3. The sprayer should be stored in a shaded place, in temperature above +4°degrees.
4. Do not use contaminated sprayer for any other purposes than spraying chemicals.
5. After finishing work, the sprayer must be emptied and thoroughly rinsed with water. The filter inside the handle must be taken out and cleaned. When the sprayer is completely assembled, pump it up and blow the air through it.
6. After noticing any resistance in the pump piston, feeding valve trigger or safety valve, the seals in these parts must be lubricated using the silicone smear. Failing to do it can cause damage to the seals and result in loss of the guarantee.
7. When using to spray plants with chemicals, you must comply with safety and hygiene regulations and strictly follow instructions given on the package of those chemicals.
8. If you leave some liquid in the lance during winter, expanding ice may damage the valve and the handle.

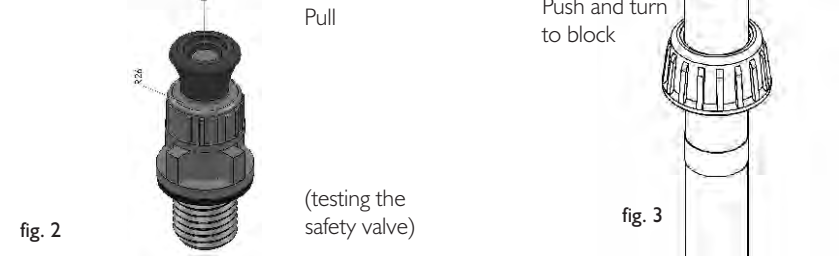
5. WORK SAFETY REGULATIONS

1. Children, pregnant women, people taking medicines or other drugs restricting the concentration powers or drinking alcohol are forbidden to operate the sprayer
2. Before first spraying check the sprayer's action using clean water.
3. When working with chemicals (also during liquid preparation and destroying the packages) it is necessary to wear protective clothing (rubber boots, gloves, a coat, a cap and a mask).
4. It's forbidden to work with chemicals on an empty stomach and eat or drink during working. It's forbidden to drink alcohol one day before and one day after working with chemicals.
5. It's forbidden to pour the liquid remains to the open water reservoirs or biological sewage treatment plants. These notes apply also to the water after cleansing the container and other parts of the sprayer.
6. Expendable sprayer should be handed over for utilization.
7. In case of poisoning the doctor must be contacted.
8. People working using the sprayer should strictly comply to all the recommendations on the package of the spraying agents.
9. It's forbidden to work using leaky or disabled sprayer.
10. All the operations should be done after decompression of the sprayer.
11. Thoroughly cleanse the sprayer after each using and before servicing.
12. It's forbidden to use the sprayer for other purposes than stipulated in the owner manual
13. The sprayer must be stored clean and in winter season it is essential to check, that there is no liquid left in the container or lance.
14. **The only device for making the working pressure is a pump placed inside the container – it's forbidden to use any other devices for this purpose !!!**
15. Company Marolex categorically forbids to use chemicals / fluid defined as: explosives, extremely flammable, highly flammable, flammable (where the maximum allowable temperature is higher than the ignition temperature), very toxic, toxic, oxidants.
16. Changes in the sprayer or using it not according to its allocation can result in poisoning people or animals, polluting the environment, damaging the sprayer or accidents.
17. After finishing work, you should change your clothes (the protective clothes must be cleaned), wash your hands, face, mouth and throat, and clean your nose.
18. After spraying, adulterate the remaining liquid at least 10 times and spray it on the same area or plant again.
19. After finishing work pour the water out, blow air through it by pumping through it a few times with feeding valve R020j open.
20. The user is fully responsible for the damages caused by not complying with these recommendations.
21. The sprayer must be stored empty and non–pressurized.
22. It is forbidden to block the safety valve or make any unauthorized changes in the sprayers as it may cause damages or injury.
23. After the compression the container must not be hit or dropped.
24. **Before commencing work the safety valve must be checked by pulling the valve out.** The valve should move in and out easily.
25. We recommend filling in the tank through our funnel with sieve. The sieve will filter the liquid and this will protect the nozzles from clogging.
26. The sprayer while working and storing should be secured from any unauthorized people, especially children.

6. TECHNICAL INSTRUCTIONS

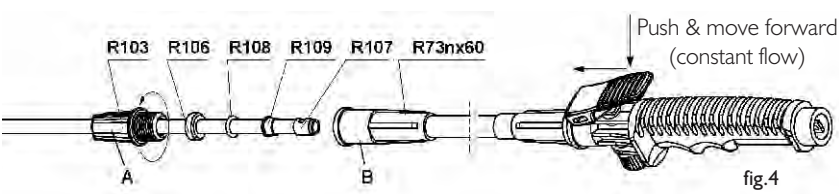
Safety valve R03d - fig.2
Before using the sprayer, check the safety valve R03d by pulling its handle !

After test filling of the container (about 5 to 10 pump pushes) pull the valve handle - you should hear air coming out of the valve.
After you release the handle, air mustn't got out through the valve. Check if the safety valve nut R26 is screwed in tight.



Telescopic lance R01mx - fig. 4

After unscrewing 103 sleeve from lance sleeve "B", move apart both ("A" and "B") parts. While pulling the "A" part, the R107 clasp is helpful in removing R106 and R108 gaskets form the sleeve socket.
After unclasping the R107 clasp, you can clean or replace R106 and R108 gaskets.
After reinstalling gaskets and the clasp, screw both sleeves together. Screw the R103 nut tight, so the lance "A" won't be able to change its length when using.



nozzle	colour	liquid output	nozzle type	3 nozzle kit Z09j3	5 nozzle kit Z09j5	7 nozzle kit Z09j7
MR1.0	green	~0,40 litre/min.	adjustable stream angle		✓	✓
MR1.5	bright yellow	~0,60 litre/min.			✓	✓
MR2.0	red	~0,80 litre/min.				✓
MF2.110	yellow	~0,80 litre/min.	flatstream	✓	✓	✓
MF3.110	blue	~1,15 litre/min.		✓	✓	✓
MF4.110	red	~1,65 litre/min.		✓	✓	
MF4.45	red	~1,10 litre/min.				✓
MF5.30	gold-brown	~1,60 litre/min.				✓

Nozzles MR1.0 and MR1.5 are enclosed with the sprayer. Other nozzles can be purchased in the kits.

7. SERVICE AND WARRANTY REPAIRS

1. The guarantee period is 24 months from the date of purchase.
2. Sprayers with chemical remains will not be repaired.
3. Reclamation should be lodged to the seller of the sprayer.
4. The claims will be accepted after showing the defected part or giving the full description of the fault.
5. Number of repairs after which the seller can't refuse to exchange the sprayer for a new one (in case there are still defects) is 3.
6. Operations connected with exploitation of the sprayer and described in the manual are not treated as guarantee repairs.
7. The producer won't accept the claim if there were changes in pressure regulation or the storing, operating, maintaining of the product were not according to the manual.
8. Mechanical damages caused by the user can't be the subject to reclamation. The damaged parts can be exchanged but the costs are charged.
9. The guarantee repairs should be made using always the genuine Marolex parts.

8. MAINTENANCE AND DISASSEMBLY

- After finishing work, cleaning the sprayer and blowing air through it, you should:
1. Unscrew hose connected to the handle, remove R40 filter, and clean it (preferably under running water).
 2. Check if the pump works easy without any jamming. If you feel any resistance, remove the pump, unscrew the R20b piston rod, and lubricate: gaskets, piston rod, cylinder using silicon lubricant.
 3. Unscrew the bottom nut from the feeding valve - R020j, remove the valve piston with a spring, clean it, lubricate with silicon lubricant, put it back into the valve and screw in the nut tight.
 4. Unscrew the nozzle cap, remove the nozzle, wash it and reassemble.
 5. Check if the safety valve handle, after pulling, returns to its normal position. If it jams, unscrew the R26 safety valve nut, remove the valve pin, clean it and lubricate slightly with silicon lubricant. Reassemble the valve and screw the valve nut tight.

The sprayer used once for chemicals can not be used for other purposes.

9. TROUBLESHOOTING

Syptoms:	Cause:	Solution:
After winter season water leaks from the handle	Freezing water rup-tured handle or valve.	Replace it (valve & handle - R020j)
	The valve or the hose nut is not screwed tight	Screw the valve tight or replace gasket
Feeding valve leaking	Damaged valves cylinder top gasket (it wasn't lubricated periodically)	Replace gaskets or the cylinder or even the entire R020j valve (don't forget about lubricating the valve!)
Feeding valve is closed, but lance is leaking	Damaged valves cylinder top gasket (it wasn't lubricated periodically)	Replace gaskets or the cylinder or even the entire R020j valve (don't forget about lubricating the valve!)
Weak spraying action although the pressure in the tank is high	R40 filter dirty	Unscrew the hose, remove the R40 filter and clean it or replace with a new one
Liquid stream is uneven	Nozzle end piece dirty	Unscrew the nozzle cap and clean nozzle and whirler
	Pump rubber valve-cap is dirty	Clean or replace gaskets. Lubricate the pump with silicon lubricant.
You can not reach the maximum pressure	Pumps cylinder gasket is worn out	
	No silicon lubricant in the pump	
There's air appearing in the hose and liquid stream is disrupted	Intake pipe M08 in container is not pushed tight into R82c hose stub pipe	Unscrew the hose, remove the pipe and push the stub pipe hard in (you can also glue it together)

10. DISMANTLING, UTILISATION

The damaged sprayer, not suitable for repair, should be utilised in such way as not to pollute the environment.
Cleansed plastic elements should be recycled as well as the metal parts.

11. GENERAL REMARKS

In the lance's handle there's a filter (R40) installed, designed to protect nozzles from clogging.
The container is protected against overpressurising by the R03d safety valve.
All types of Marolex lances can be used.
You can adjust the stream angle by twisting MR1.0 MR1.5 nozzles.
With MAROLEX sprayers you can use different types of nozzles: cone, deflect, flat, regulated which are available on the market.
After filling in the tank and pumping it to its maximum pressure, the sprayer can be used and at the same time moved on the ground, thanks to its broad and stable wheels.

12. SAFETY SIGNS

lp.	sign	meaning	place
1.		tablet	on container
2.		Sign indicating possibility of unspecified danger.	on container
3.		Sign indicating that a users manual should be read before starting work.	on container
4.		Sign indicating danger of poisoning. Eating or drinking while using the device is forbidden.	on container

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