# MOSQUITO NETS – LLIN

**UNHCR Item No 07943**

## Item Application Sample

## General Information and Description

Long Lasting Insecticidal Nets (LLIN's), treated with WHOPES (WHO Pesticide Evaluation Scheme) recommended insecticide, provide effective protection against mosquitoes and other insects and are essential for UNHCR's malaria control strategy.

The specifications of LLIN depend of its material composition and as per WHO recommendation the most commonly used are made of 100% Polyethylene (PE) or 100% Polyester (PES). Mosquito nets must be WHOPES approved (full or interim).

Rectangular mosquito net (L 180 x W 160 x H 150 cm) ±5%.

Conical mosquito net, dimensions 1050x220cm (circumference x height) +/-5%.

Available colours may vary by manufacturer. Common colours offered are: white, blue, green

Shapes and colour preferences may vary by country. By default, UNHCR supply will request rectangular shaped nets in either blue or white. Operations must explicitly specify their colour and shape preferences if different.

## Expected Life Span

It is expected that Long Lasting Insecticidal Nets will have a life span on the average of 3 to 5 years according the use, the type and the fabric origin.

## CRI Pallet Details

Fumigated as per IPSM 15 standard. Dimensions (L x W x H): 1150 x 770 x 144 mm. Maximum height of the packed pallet: 115 cm. Pallets should be shrink-wrapped and strapped. The palletized goods must not exceed the length and width of the pallet. For further information please refer to section IV Pallet Information.

## Packing and Labeling

Mosquito Nets are packed in bales:

Mosquito Net, Polyester:
Packing Unit (PU): Bale / Number of pieces per PU: 100.

Mosquito Net, Polyethylene:
Packing Unit (PU): Bale / Number of pieces per PU: 50.

Different packing methods may be accepted in order to maximize loadability in pallets and containers.

Labeling:
Long Lasting Insecticidal Nets should be packed individually in a printed plastic bag, containing the following information:

1. Size:
2. Manufacturer name:
3. Brand name:
4. Fiber:
5. Standard pictograms for washing (ISO 3758): Gentle wash at no more than 30ºC. No bleaching, no use of a drying machine, no ironing and no dry cleaning.
6. Denier:
7. Flammability:
8. Use and precautionary instructions:
9. Name of insecticide used and dosage:
10. Expected effective life of treatment after exposure.

## Optimal Shipping / Container Information

Mosquito Net, Polyester:

17,500 pieces / 175 bales per 20' DC container (without pallets).
38,500 pieces / 385 bales per 40' DC container (without pallets).
44,000 pieces / 440 bales per 40' HC container (without pallets).
11,200 pieces / 28 pallets per 20' DC container (with pallets).
24,000 pieces / 60 pallets per 40' DC container (with pallets).

Mosquito Net, Polyethylene:

11,300 pieces / 226 bales per 20' DC container (without pallets).
23,500 pieces / 470 bales per 40' DC container (without pallets).
27,000 pieces / 540 bales per 40' HC container (without pallets).

## Manufactured Marking

Every unit should include a tag, stitched in the hem, with the manufacturer's identification (letters not higher than 1.5 cm). The tag should include the manufacture's name, unique reference batch number and the date of manufacture. No company logo should be included with the manufacturer's marking.

Note: last updated,October 2016

## Technical Specifications

### Mosquito Net, POLYETHYLENE

Material: (composition ISO1833) Polyethylene (PE) 100%.
Fabrication: (construction ISO 8388) Warp knitted.
Size: 180 x 160 x 150 cm (rectangular), 1050 x 220 cm (conical). +/- 5%.
Denier: (ISO 2060, DUPRO) min. 100.
Filament: Mono-filament.
Netting mesh size: Min. 56 holes / inch$^2$.
Weight: Min. 38 g/m$^2$, depending of denier. +/- 10%
Shrinkage: (ISO 5077/ISO 6330 - 8A at 30 C, flat dry) ±5%.
Bursting strength: (ISO13938-1 or ISO 13938-2): Min. 350 kPa for net material and seams.
Fire safety: (16 CFR part 1610 ): Class 1.
Color: Preferably white, blue or green.
Treatment: Long lasting insecticide (3 to 5 years).
Insecticide: WHOPES recommended.
Concentration of insecticide: WHOPES recommended.
Target level of concentration: WHOPES recommended.

### Net Label

Nets are to be labeled with indelible ink or stitched to the net as follows:

1. Manufacturer's name, without logo:
2. Date of production:
3. Unique batch number:
4. Fiber:
5. Size (length x width x height) in cm:
6. Name of insecticide used and formulation:

Standard pictograms and instructions for washing and drying, according to ISO 3758:

Gentle wash at 30ºC. No bleaching. No drying machine. No ironing. No dry cleaning.

The presented pictograms in text: Avoid frequent washing, but if required, wash gently and do not do bleaching. Avoid exposure to the sun.