### REFERENCES

#### OFFICIAL RECOMMENDATIONS

- 1. Lettre-circulaire n°97-3158 du 22 avril 1997 relative aux modalités d'utilisation des sondes et des dispositifs de nutrition entérale et de sécurité des dispositifs médicaux.
- 2. Ministère de l'Emploi et de la Solidarité. Arrêté du 14 mai 1998 relatif au retrait du marché et à l'interdiction de mise sur le marché des dispositifs de nutrition entérale avec un raccord permettant la connexion à un assemblage conique femelle à 6% (luer) ou à un assemblage à verrouillage femelle à 6% (luer lock). Journal officiel n°120 du 26 mai 1998 : 7979.

#### **PUBLICATIONS**

- 3. J E Gray, D A Goldmann Medication errors in the neonatal intensive care unit: special patients, unique issues Arch Dis Child Fetal Neonatal Ed
- 4. Laura A. Stokowski, RN, MS Safety in the NICU: Preventing Medical Errors NANN '06 Medscape Nurses, March 2007
- 5. Wrong-Route Errors Safety first, Massachussets Coalition for the prevention of healthcare errors June 1999 http://www.macoalition.org/documents. SafetyFirst1.pdf, accessed 10 june 2006).
- 6. ISMP Medication safety Alert, April 4, 2003 Enteral feeding given IV http://www.ismp.org/newsletters/acutecare/articles/A2Q03Action.asp
- 7. National Patient Safety Agency, 28 march 2007 Promoting safer measurement and administration of liquid medicines via oral and other enteral routes www.npsa.nhs.uk/health/display?contentId=5761
- 8. Debora Simmons, MSN, RN, CCRN, CCNS Safe system, Safe patients: Common connectors pose a threat to safe practice Texas Board of nursing bulletin, Vol. 37, N°. 2, (ou 37 (2)) 6-7, April 2006
- 9. Laura Stokowski, RN, MS, Column editor Sentinel Event Alert: Dangerous tubing misconnections Advances in Neonatal Care, Vol. 6, N°5 (October), 2006: pp 225 227.
- 10. Avoiding catheter and tubing mis-connections World Health Organization Vol. 1, solution 7, may 2007
- 11. Lopez Garcia M.J., Sorribes Monrabal I., Fernandez-Delgado Cerda R. Accidental intravenous administration of semi-elemental formula in infant (letter) Clinic Pediatrics 1992, 31 (12), 757-758.
- 12. Melissa Eakle, RN, MBA, MSN; Beverly Albrecht Gallauresi, RN, BS, MPH, and Audrey Morrison, RN Luer-lock misconnects can be deadly, September 2005
  Beverly Galluresi, RN, MPH; Melissa Eakle, RN, MBA, Audrey Morrison, RN, BSN Misconnections between medical devices with Luer connectors: under-recognized but potentially fatal events in clinical practice Safe Practices in Patient Care April 2007, Vol. 3, N° 2. http://www.safe-practices.org/SafePractice8.pdf
- 13. Avoiding Catheter and Tubing Mis-Connections Patient Safety Solution 7 May 2007, Vol. 3, Issue 5
- 14. Cohen, Mickael R. Enteral fluid via I.V. pump Nursing, Aug 2004
- 15. Vecchione A.- JCAHO warns of tubing errors Health-System edition, 22 May 2006 (http://mediwire.healingwell.com/main/Default.aspx?P=Content&ArticleID=326253, accessed 10 June 2006)
- 16. Gautham S. Voluntary anonymous reporting of medical errors for neonatal intensive care- Pediatrics 2004; 113; 16009-1618 http://pediatrics.org/cgi/content/full/113/6/1609
- 17. Preventing wrong route errors with oral/enteral medications, feeds and flushes National Patient safety Agency Patient Safety Alert, Draft responses to 1st consult, January-march 2006. http://www.saferhealthcare.org.uk/NR/rdoyres/3F9F3FB2-89B6-4633-ACE9-A51EC2023EBC/0/NPSAdraftpatientsafetyalertonoralconnectorsforstakeholderconsultation.pdf
- 18. Copeland D., Appel J.- Implementation of an enteral nutrition and medication administration system utilizing oral syringes in the NICU- Neonatal Network Volume 25, N°1, 21-24, January/February 2006
- 19. Page L. Diligence, technology prevent IV and feeding tube mix-ups: finding the wrong fit Materials Management in Health Care April 2006:24-28
- $20.\ Preventing\ misconnections\ of\ lines\ and\ cables\ -\ ECRI,\ Health\ devices\ -\ March\ 2006; 35\ (3): 81-95$
- 21. Cousins DH, Upton DR. Medications errors: oral paracetamol liquid administered intravenously: time for hospitals to issue oral syringe in clinical areas? Pharmacy in practices, 2001, 7:221
- 22. Building a safer NHS for patients: Improving medication safety (2004). Available at: www.dh.gov.uk. London, Department of Health, 2004 (http://www.dh.gov.uk/en/Publicationsandstatistics/PublicationsPolicyAndGuidance/DH\_4071443 accessed 10 June 2006)
- 23. Stellato TA, Danziger LH, Nearman HS, Creger RJ. Inadvertent intravenous administration of enteral diet Journal of Parenteral and Enteral Nutrition 1984;4:453-455.
- 24. Solomon RB Intravenous milk infusion The Lancet 1972;2:187. Letter.
- 25. Wallace JR, Payne RW, Mack AJ. Inadvertent intravenous infusion of milk Lancet. 1972;1:1264-1265
- 26. Ryan CA, et al. Normal neurologic and developmental outcome after an accidental intravenous infusion of expressed breast milk in a neonate Pediatrics 117(1):236-238, January 2006
  - 27. Tubing misconnections a persistent and potentially deadly occurrence. Sentinel Event Alert. 2006 April 3; 36 Joint Commission. http://www.jointcommission.org/SentinelEvents/SentinelEventAlert/sea\_36.htm



**A:** 38 Hector Street OSBORNE PARK WA 6017 **T:** 08 9361 0843 | **F:** 08 9470 3647

E: medsales@medsales.com.au | W: www.medsales.com.au





## $\label{eq:Nutrisafe} Nutrisafe^{\$}2$ Your safety enteral delivery system to avoid the risk of accidental connection with an IV system.

# A NEW RANGE INCORPORATING ERGONOMICS AND EASE OF USE.



The Nutrisafe® 2 connection is a **complete system which is not a luer.** 

It does not change the technique of the users and therefore does not require any special training: "like a Luer, but not a Luer".

Connecting Nutrisafe® 2 to a standard 6% Luer fitting is not possible. Nutrisafe® 2 features specific and unique dimensions to achieve this result.

The Nutrisafe® 2 system eliminates the risk of accidental connection of an IV system to the enteral system, or the enteral system to an IV system.



## FOR TOTAL SAFETY NO CHANGE IN HANDLING TECHNIQUE:



#### TOTAL SAFETY:

- Connecting Nutrisafe 2 to a standard vascular Luer fitting is not possible.
- A standard syringe cannot be used with the Nutrisafe 2 connection.
- The Nutrisafe 2 range is easily identified thanks to the purple colour coding to enable instant identification, this further reduces the risk of accidentally connecting devices intended for use with I.V. lines.
  - The lockable non-Luer connection makes accidental disconnection impossible

#### NO CHANGE IN HANDLING TECHNIQUE:

• The egg-shaped design was selected for its smoothness as it protects against irritation of the patient's fragile skin. No change in handling technique for the users.

### **CONTENTS**



Nutrisafe® 2 feeding tubes	P. 04
Nutrisafe® 2 syringes	P. 06
Nutrisafe® 2 sampling devices	P. 08
Nutrisafe® 2 connection accessories	P. 10
Nutrisafe $^{\$}2$ accessories for feeding bottles and syringes / pump sets	P. 12
Official recommendations for safe enteral nutrition	P. 14
Hygiene recommendations for the preparation, handling and storage of feeding bottles	P. 15
References	P. 16



#### Nutrisafe® 2 feeding tubes

3 materials are available according to the anticipated dwell time, we advise:

- PVC (DEHP\*-free) tube when the use does not exceed 1 week
- Polyurethane tube when the use is 1 to 4 weeks
- Silicone tube when the use is from 2 to 6 weeks (and over) The final decision for the healthcare professional treating the patient depends on the protocol of care and the condition of the patient.

#### 361/362/363/364

#### **PVC** FEEDING TUBES (DEHP\*-FREE)

	4	-	-	-	•	-	
LENGTH	04 Fr	05 Fr	06 Fr	08 Fr	10 Fr	12 Fr	Box/case
40 cm	364.042	364.052	364.062	364.082	-	-	25/600
50 cm	361.042	361.052	361.062	361.082	361.102	-	50/600
75 cm	363.042	363.052	363.062	363.082	363.102	363.122	25/600
125 cm	362.042	362.052	362.062	362.082	362.102	362.122	25/600

\* DEHP (di-2-ethylhexyl phthalate) is a plasticizer and a major component in the manufacturing of polyvinyl chloride (PVC) devices commonly used in the healthcare setting. DEHP has been shown to be a developmental and endocrine disrupting toxicant.

#### 1361 / 1362 / 1363 / 1364

#### **POLYURETHANE FEEDING TUBES**

	12			-	-	2. 10.	
LENGTH	04 Fr	05 Fr	06 Fr	08 Fr	10 Fr	12 Fr	Box/case
40 cm	1364.042	1364.052	1364.062	1364.082	-	-	25/600
50 cm	1361.042	1361.052	1361.062	1361.082	1361.102	-	50/600
75 cm	1363.042	1363.052	1363.062	1363.082	1363.102	1363.122	25/600
125 cm	1362.042	1362.052	1362.062	1362.082	1362.102	1362.122	25/600

#### 2331 / 2332 / 2395

#### **SILICONE FEEDING TUBES**

LEN	GTH	04 Fr	05 Fr	06 Fr	08 Fr	10 Fr	Box/case
50	cm	2331.042	2331.052	2331.062	2331.082	2331.102	10/240
125	cm	2332.042	-	2332.062	2332.082	2332.102	10/240
125 cm	weighted	-	-	2395.062	2395.082	-	10/240

#### **FEATURES**

#### AVAILABLE IN 4 LENGTHS:

- 40, 50, 75 and 125 cm
- 50 and 125 cm for Silicone feeding tubes

#### AVAILABLE IN 6 SIZES: 4, 5, 6, 8, 10, 12FR.

- Colour coded cap
- Size shown on the proximal end of the catheter

#### CENTIMETRIC AND NUMERICAL GRADUATIONS.

- from 5 to 35 cm for 40, 50 and 75 cm tubes
- from 5 to 70 cm for 125 cm tubes

A ROUNDED TIP FOR ATRAUMATIC INSERTION.

#### BENEFITS:

- Two lateral eyes: safety of an alternative opening in case of tip blockage
- Weighted tip (code 2395) helps to maintain the tube in the small bowel
- Marking at 20cm for easy and quick control of tube positioning



#### **DUAL FLOW GASTRIC TUBE**

340.062: 6Fr - 60 cm **340.082**: 8Fr - 60 cm

• DEHP-free PVC

• Numbered graduations at 25, 35, 45 cm of the distal tip

INDICATIONS: Gastric decompression in patients with gastric atony, ileus or bowel obstruction to relieve pressure from gas or gastric contents and thus prevent vomiting.

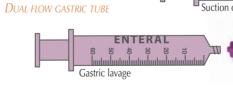
#### BENEFITS:

- Emptying the stomach before, during and after gastrointestinal surgical procedures.
- Gastric lavage in patients with gastric bleeding
- Obtaining specimens for analysis.

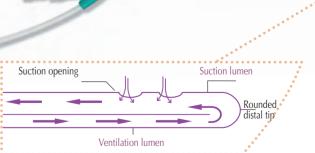
829.01 NUTRISAFE'2 FEEDING TUBE CAP





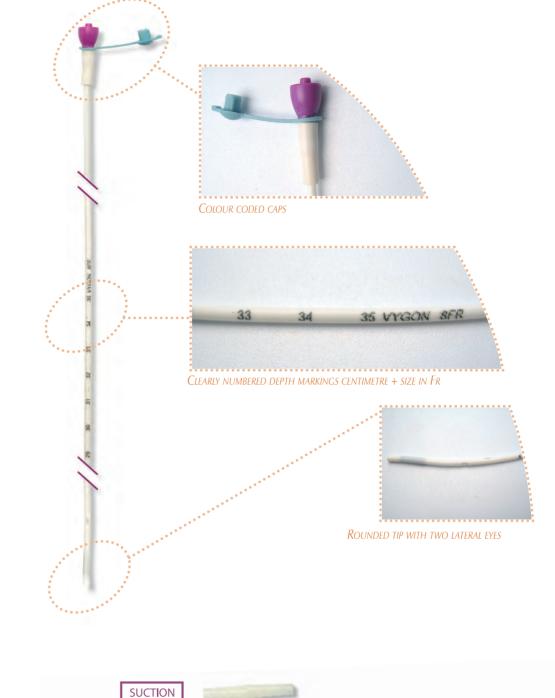


Suction or feeding









1015

#### **TRANSPARENT SYRINGES**

Соре		Volume ml	Graduation ml	Connection	Box/case
1015.002		0,5	0.01	centered	100/3200
1015.012	-	1	0.01	centered	100/3200
1015.022	-	2.5	0.1	centered	100/3200
1015.052	H	5	0.2	centered	100/1600
1015.102		10	0.2	centered	100/1200
1015.202	1000 COOK	20	1	centered	50/800
1015.212	NOD 3 AND	20	1	offset	50/300
1015.602	vius   C-GON	60	1	offset	25/300

#### **FEATURES**

On SYRINGE PUMPS, position of the 20 and 60 ml syringe: CODAN except for the Fresenius Pilot Enteral: position VYGON C-GON.

Double sided graduations: clear volume markings when the syringe is on the syringe-pump.

INDICATIONS:

1015.002: injection for medication

1015.012: injection for medication

1015.022: injection for medication / residues

1015.052: gravity feeding / Injection for medication / residues

1015.102/202/212/602: syringe-pump or gravity feeding



#### AMBER-COLOURED SYRINGES

CODE		Volume	Graduation	Connection	Box/case
1022.012	+	1	0.01	centered	50/2400
1022.022	-	2.5	0.1	centered	50/2400
1022.052	-	5	0.2	centered	50/1200
1022.102		10	1	centered	50/600

INDICATIONS: preparation and administration of oral and enteral drugs. The opacity of the syringes guarantees a better conservation and protection of light-sensitive drugs.

Non sterile syringes with cap.





CONTENTS OF SYRINGE KITS: syringes + syringe caps + 1 sampling straw (large bore) code 817.302

CONTENTS OF SYRINGE BOXES: syringes +display box

INDICATION: daily preparation of the enteral nutrition for an individual patient.

SYRINGE KIT Code 1015.868



#### 1015.828: 8 syringes of 20 ml offset. 20 units/box.

**NUTRISAFE'2 SYRINGE KITS AND BOXES** 

1015.838: 1015.866: 1015.868: 1016.928:

1016.966:

1016.968:

8 syringes of 20 ml centered. 10 units/box. 6 syringes of 60 ml. 10 units/box.

8 syringes of 60 ml. 10 units/box. 8 syringes of 20 ml. 1 unit/box.

6 syringes of 60 ml. 1 unit/box.

8 syringes of 60 ml. 1 unit/box.

#### **Accessories for Nutrisafe'2 syringes**

818 VENTED BOLUS CAPS FOR NUTRISAFE 2 Box/case 50/400.

**818.22** For 20 ml syringe. • **818.62** For 60 ml syringe.

INDICATIONS: transformation of 60 ml and 20 ml syringes Nutrisafe® 2 for gravity feeding

USE: the plunger is removed and replaced by the vented cap in order to protect the solution.

Thanks to a nylon filter, the protective cap allows the passage of the air but not the particles.



**NUTRISAFE 2 SYRINGE CAP** Box/case 100/4800

**828.01** Single packaging. 828.08 pack containing 8 caps..



VENTED BOLUS CAP











#### Nutrisafe® 2 sampling devices



• Standard bore for drawing up mothers or powdered milk

• Large bore for drawing up fortified milk

Length	for "milk bottles" (Ø 1.5 x 2.5 mm)	Standard bore (Ø 2.0 x 3.3 mm)	Large bore (Ø 3.0 x 4.2 mm)	Box/case
5 cm	-	817.052	-	50/900
15 cm	817.154	817.152	817.153	50/900
20 cm	-	817.202	817.203	50/900
30 cm	-	-	817.302	50/600
50 cm	-	817.502	-	20/240

SAMPLING STRAWS Code 817.302 Code 817.153 Code 817.154 Milk container Milk bottle Feeding bottle

#### **AMPOULE SAMPLING DEVICES**

Description	Box/case
Ampoule sampling	25/1000
	<u>'</u>

CODE	Description	Box/case
817.105	Filter straw	50/900

••••••••••••







821/281

#### NEEDLELESS VIAL ACCESS CAP AND SPIKE NUTRISAFE® 2

**Cap with male connection:** used with Nutrisafe® 2 syringes for drug sampling.

**Cap with female connection:** is connected to glass recipients of enteral solutions administered by gravity. The perforator is then connected to a Nutrisafe®2 extension tube and to the feeding tube.

Ø cap	Male connection	Female connection	Box/case	
14 mm	821.012	821.112	50/400	
20 mm	821.022	821.122	25/200	

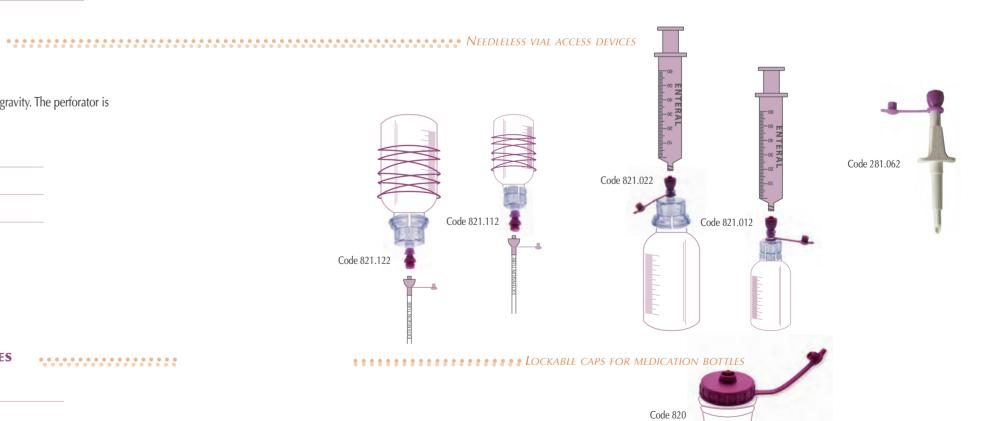
**Spike:** used with Nutrisafe® 2 syringes for drug sampling.

CODE	Box/case
261.062	10/240



#### LOCKABLE CAPS FOR MEDICATION BOTTLES

Code	Ø (mm)	Box/case	
820.20	20 mm	20/1920	
820.22	22 mm	20/1920	
820.28	28 mm	20/1920	





Medication bottle

#### NUTRISAFE® 2 CONNECTION ACCESSORIES

## 368.02

#### FEED SET ADAPTER NUTRISAFE® 2

Allows connection of a Nutrisafe® 2 feeding tube to a feeding set.

••••••••

Box/case: 100/800



#### 3-WAY STOPCOCK NUTRISAFE® 2

Allows medication administration during feeding or checking of gastric residuals. Box/case: 50/300.

#### **CONNECTORS NUTRISAFE® 2**

CODE	Description	Box/case	CODE	Description	Box/case	
368.42	Y connector	50/300	368.22	Male-male connector	100/800	

CODE	Description	Box/case	Code	Description	Box/case
368.12	Taper connector for gastrostomy tube	100/800	368.32	Taper connector for stomach decompression	25/300

#### 5307

To connect a Nutrisafe 2 syringe to a gastrostomy button type MIC-Key® (Kimberly Clark).

- STRAIGHT: for bolus administration
- ANGLED : for continuous feeding

CODE	Extension tube	Length	CODE	Extension tube	Length	
5307.1103	Straight	30 cm	5307.2103	Angled	30 cm	
5307.1106	Straight	60 cm	5307.2106	Angled	60 cm	

#### 368/369

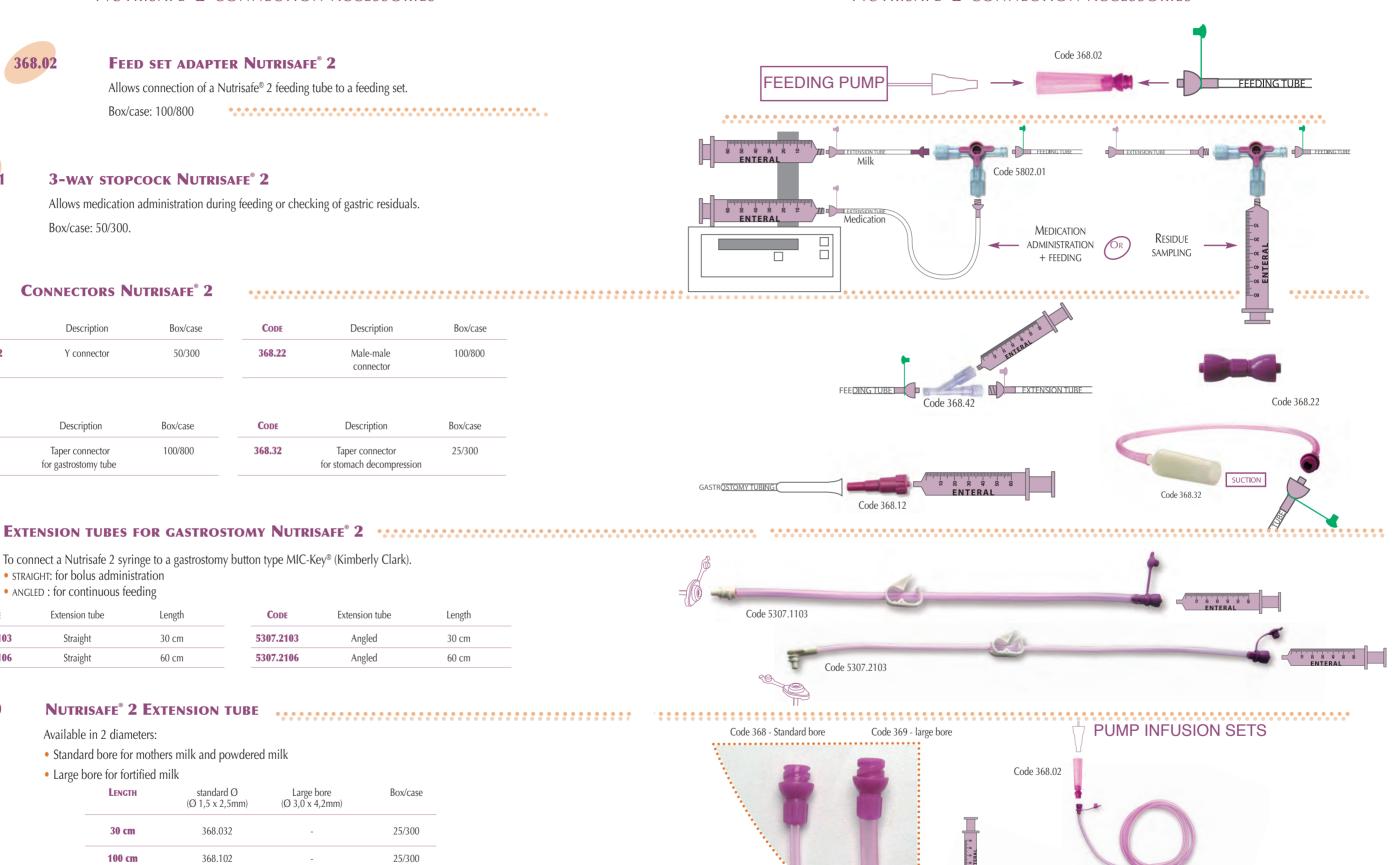
### Nutrisafe® 2 Extension tube .....

Available in 2 diameters:

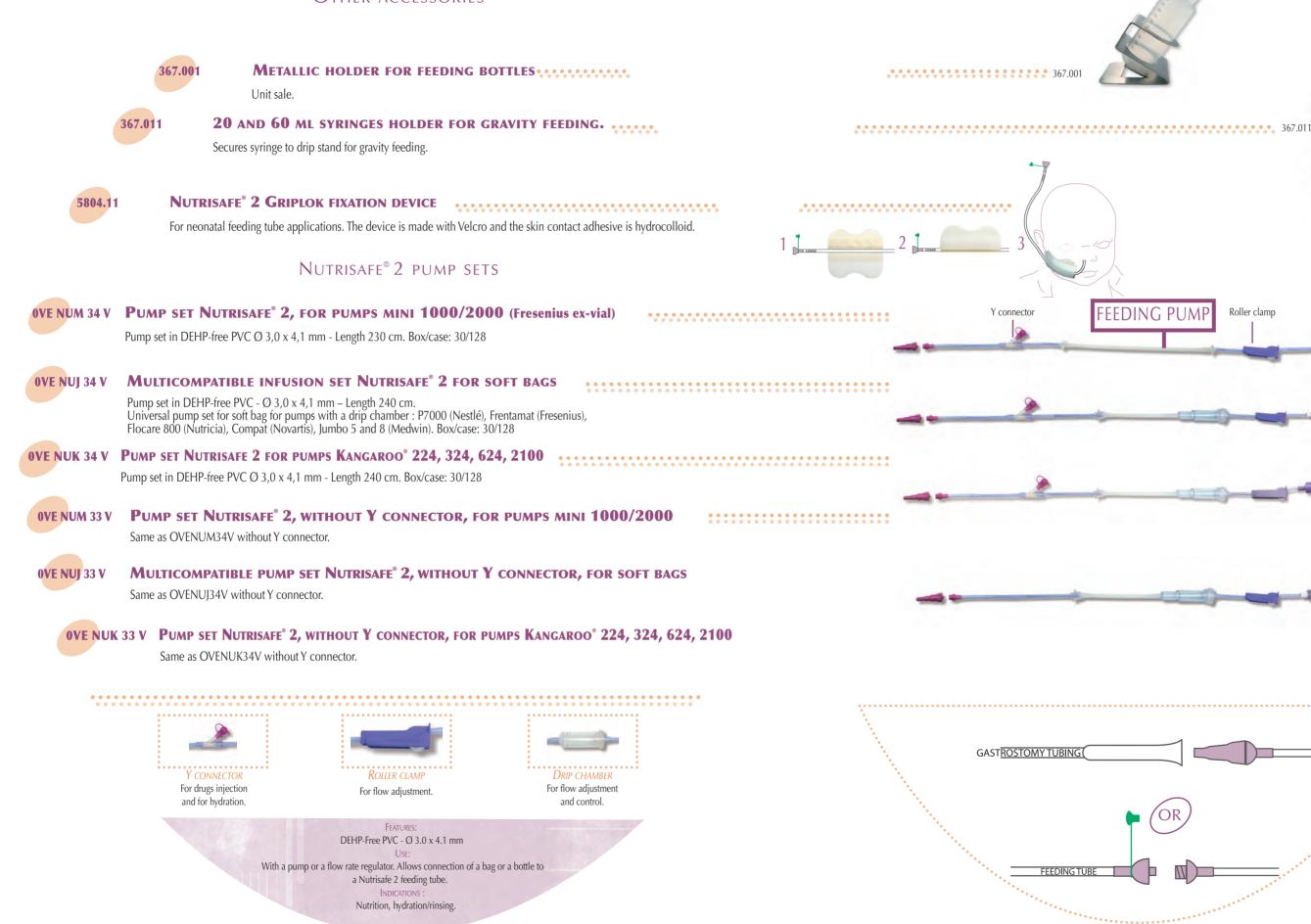
- Standard bore for mothers milk and powdered milk
- Large bore for fortified milk

LENGTH	standard Ø (Ø 1,5 x 2,5mm)	Large bore (Ø 3,0 x 4,2mm)	Box/case	
30 cm	368.032	-	25/300	
100 cm	368.102 368.1021 (with clamp)	-	25/300	
150 cm	368.152 368.1021 (with clamp)	369.152	25/300	
250 cm	-	369.252	50/200	

#### NUTRISAFE® 2 CONNECTION ACCESSORIES



#### OTHER ACCESSORIES



Roller clamp

Drip chamber

## OFFICIAL RECOMMENDATIONS FOR SAFE ENTERAL NUTRITION

The circular note n° 97.3158 of April 22nd 1997, and the Decree of the may 14<sup>th</sup> 1998, follows to quality reports of enteral feeding tubes mistakenly connected to I.V. lines in many hospitals.

The purpose described in this decree aims to improve the safety of enteral nutrition devices:

- It specifies that the devices must be easily identified
- To eliminate any source of confusion, it is ordered that devices that may be connected to I.V. lines are withdrawn
- It is forbidden to put onto the market any enteral nutrition devices that allow a connection to a conical assembly female 6 % (luer) or to an assembly to locking female to 6 % (luer-lock), standard connection for the vascular access.

Many european standards recommend a safety system in particular the european standard, NF EN 1615 of June 2001 relative to the feeding tubes and sterile non-reusable devices for enteral feeding.

Some recommendations in order to avoid mis-connections

- Keep the Luer standard connection for the I.V. infusion
- Educate all clinical staff who use Luer devices about the hazards of misconnecting tubing and devices.
- Use safety sytems which are designed for enteral feeding to avoid misconnections.
- Read and follow the equipment manufacturer's recommendations and precautions, especially regarding compatibility with other devices.
- Inform nonclinical staff, patients, and patients' families that they must get help from clinical staff whenever there is a real or perceived need to connect or disconnect devices or infusions.
- Recheck connections and trace all patient tubes and catheters to their sources upon the patient's arrival to a new setting or service as part of the handoff process.
- Always trace a tube or catheter from the patient to the point of origin before connecting any new device.
- Facilitate proper identification and proper route of administration by the end user with special packaging of all medications intended for intrathecal administration.
- Never use a standard Luer syringe for oral medications or enteral feeding.
- Remove unnecessary parenteral lines as soon as possible.

# HYGIENE RECOMMENDATIONS FOR THE PREPARATION, HANDLING AND STORAGE OF FEEDING BOTTLES

From "Hygiene recommendations for the preparation, handling and storage of feeding bottles", AFSSA (Agence Française de Sécurité Sanitaire des Aliments – Health Sub-department for environmental risk management Office of Foods) - July 2005. For the institutions.

#### Warning

- Do not keep feeding bottles at room temperature for more than one hour after their preparation.
- Do not store refrigerated feeding bottles at a temperature below or equal to 4°C for more than 30 hours after their preparation.
- Do not take more than one hour to give the infant the bottle. If the feeding bottle has been reheated, this period is reduced to 30 minutes.
- Do not reheat feeding bottles in a microwave.
- Do not forget to check that the temperature inside refrigerated chambers is less than or equal to 4°C, recorded and controlled regularly, and that regular calibration of this temperature is performed.
- Do not transport feeding bottles to the site of consumption without using a refrigerated container when transportation takes more than 10 minutes.
- Do not exceed a storage time for human breast milk of more than 48 hours in the refrigerator at a temperature not exceeding 4°C, and more than 4 months in a freezer at 18°C.
- Do not exceed a duration of 4 hours between removing nutritional fluids not ready to use for enteral nutrition and the time that these nutritional fluids are completely consumed by the infant.

The complete article "Hygiene recommendations for the preparation, handling and storage of feeding bottles "published by the AFSSA in July 2005 is available on request.





