

**MATERIAL SAFETY DATA SHEET**    N° 051    Rev. 4

LACTULOSE SOLUTION USP / EP GRADE

DATE 20.01.07

Page 1 of 7

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1 - PRODUCT IDENTIFICATION  
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COMMON NAME:	LACTULOSE SYRUP
SYNONYMS:	N/A
CAS NUMBER:	4618-18-2 *
CHEMICAL NAME:	4-O-β-D-GALACTOPYRANOSYL-D-FRUCTOSE *
THERAPEUTIC CAT.:	LAXATIVE
MOLECULAR FORMULA:	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> *
MOLECULAR WEIGHT:	342.30 *
MERCK INDEX:	12,5360 *
MANUFACTURER/SUPPLIER:	INFRA S.r.l. Via Fiorentina – Località Canapale 51100 PISTOIA ITALY

Tel. +39-0573-98401    Fax +39-0573-382154

\* REFERRED TO THE ACTIVE INGREDIENT

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2 - COMPONENTS  
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COMPONENTS:

- LACTULOSE 50% W/W AND LOW QUANTITIES OF OTHER SUGARS (GALACTOSE, LACTOSE AND OTHERS) AS RELATED SUBSTANCES
- WATER

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3 - RISKS INFORMATION  
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VERY MILD TOXIC BY INGESTION AND OTHER ROUTES

**MATERIAL SAFETY DATA SHEET    N° 051    Rev. 4**

LACTULOSE SOLUTION USP / EP GRADE

DATE 20.01.07

Page 2 of 7

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4 – FIRST AID MEASURES  
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EMERGENCY AND FIRST  
AID PROCEDURES:

REMOVE FROM EXPOSURE. REMOVE CONTAMINATED CLOTHING.  
IN CASE OF EYES OR SKIN CONTACT, FLUSH AFFECTED AREAS WITH COPIOUS AMOUNTS OF WATER. ASSURE ADEQUATE FLUSHING OF THE EYES BY SEPARATING THE EYELIDS WITH FINGERS.  
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN.

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5 – FIRE FIGHTING MEASURES  
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FLASH POINT:

N/A

EXTINGUISHING MEDIA:

WATER, CARBON DIOXIDE;  
DRY CHEMICAL POWDER OR APPROPRIATE FOAM EXTINGUISHER FOR SURROUNDING FIRE AND MATERIALS.

SPECIAL FIRE FIGHTING  
PROCEDURES:

AS WITH ALL FIRES, EVACUATE AREA. WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.

UNUSUAL FIRE AND  
EXPLOSIONS HAZARDS:

MATERIAL EMITS TOXIC FUMES OF CARBON MONOXIDE UNDER FIRE CONDITIONS.

**MATERIAL SAFETY DATA SHEET    N° 051    Rev. 4**

LACTULOSE SOLUTION USP / EP GRADE

DATE 20.01.07

Page 3 of 7

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6 - ACCIDENTAL RELEASE PROCEDURES

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STEPS TO BE TAKEN IN  
CASE MATERIAL IS  
RELEASED OR SPILLED:

WEAR COMPATIBLE CHEMICAL-RESISTANT RUBBER  
GLOVES.  
VACUUM OR SWEEP UP SPILLAGE WITH INERT MATERIAL.  
PLACE SPILLAGE IN APPROPRIATE CONTAINER FOR  
WASTE DISPOSAL ACCORDING TO LOCAL LAWS. WASH  
CONTAMINATED CLOTHING BEFORE REUSE.  
WASH SPILL SITE WITH COPIOUS AMOUNTS OF WATER  
AFTER MATERIAL PICKUP IS COMPLETE.

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7 - HANDLING AND STORAGE

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PRECAUTIONS TO BE TAKEN:

STORE IN TIGHTLY CLOSED CONTAINER.  
THIS MATERIAL SHOULD BE HANDLED AND STORED PER  
LABEL AND OTHER INSTRUCTIONS TO ENSURE PRODUCT  
INTEGRITY.  
DO NOT PERMIT EATING, DRINKING OR SMOKING NEAR  
MATERIAL.  
WASH THOROUGHLY AFTER HANDLING.  
AVOID CONTACT WITH EYES, SKIN AND CLOTHING.

STORAGE REQUIREMENTS:

STORE IN SUITABLE TIGHTLY CLOSED CONTAINER.

OTHER PROTECTION:

APPROPRIATE AND PROTECTIVE LABORATORY APPAREL

EYE PROTECTION:

SAFETY GOGGLES

**MATERIAL SAFETY DATA SHEET**    N° 051    Rev. 4

LACTULOSE SOLUTION USP / EP GRADE

DATE 20.01.07

Page 4 of 7

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8 – EXPOSURE CONTROLS / PERSONAL PROTECTION  
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RESPIRATORY PROTECTION:                      NONE REQUIRED WHERE ADEQUATE VENTILATION  
CONDITIONS EXIST.

PROTECTIVE GLOVES:                              RUBBER GLOVES

EYE PROTECTION:                                 SAFETY GOGGLES

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9 - PHYSICAL PROPERTIES  
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BOILING POINT:	N/A	SPECIFIC GRAVITY:	1.3 g/ml
VAPOUR PRESSURE:	N/A	MELTING POINT:	N/A
WATER CONTENT:	35%		

SOLUBILITY:                                         100% MIXABLE WITH WATER.

APPEARANCE AND ODOUR:                      CLEAR LIGHT YELLOW LIQUID WITH SLIGHTLY SWEET  
ODOUR



MATERIAL SAFETY DATA SHEET    N° 051    Rev. 4

LACTULOSE SOLUTION USP / EP GRADE

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Page 6 of 7

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12 - ECOLOGICAL INFORMATION  
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ABSORB WITH INERT MATERIAL, PLACE INTO APPROPRIATE CONTAINER. DISPOSE OF IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.

TOXIC ENVIRONMENTAL EFFECTS ARE NOT KNOWN.

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13 - DISPOSAL PROCEDURES  
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WASTE DISPOSAL  
METHODS:

BIODEGRADATION THROUGH AN ACTIVE SLUDGE  
WASTE WATERS PLANT.

DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE  
SOLVENT AND BURN IN A SUITABLE INCINERATOR  
EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.  
OBSERVE ALL APPLICABLE FEDERAL REGULATIONS.

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14 - TRANSPORT INFORMATION  
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MOTOR AND RAILWAY SHIPMENT, SEA SHIPMENT AND AIR SHIPMENT ARE NOT  
DANGEROUS

**MATERIAL SAFETY DATA SHEET**    N° 051    Rev. 4

LACTULOSE SOLUTION USP / EP GRADE

DATE 20.01.07

Page 7 of 7

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15 - REGULATORY INFORMATION

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DATA NOT AVAILABLE

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16 - ADDITIONAL INFORMATION

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THE INFORMATION IN THIS MATERIAL SAFETY DATA SHEET MEETS INTERNATIONAL REQUIREMENTS. THIS DOCUMENT IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE MATERIAL BY A PERSON TRAINED IN CHEMICAL HANDLING.

THE USER IS RESPONSIBLE FOR DETERMINING THE PRECAUTIONS AND DANGERS OF THIS CHEMICAL FOR PARTICULAR APPLICATION DEPENDING ON USAGE.

PROTECTIVE CLOTHING INCLUDING EYE AND FACE GUARD AND RESPIRATORS MUST BE USED TO AVOID CONTACT WITH MATERIAL OR BREATHING CHEMICAL VAPOURS/FUMES.

INFRA DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER.

AS NEW DOCUMENTED GENERAL SAFETY INFORMATION BECOMES AVAILABLE, INFRA WILL PERIODICALLY REVISE THIS MATERIAL SAFETY DATA SHEET. IT IS USER'S RESPONSIBILITY TO CONTACT OUR CUSTOMER SERVICE DEPARTMENT FOR THE UPDATED VERSION OF THIS DOCUMENT.