

Frontline® pump spray

Version	Revision Date:	SDS Number:	Date of last issue: 03/13/2017
2.1	03/13/2017	000000049035	Date of first issue: 02/17/2017

SECTION 1. IDENTIFICATION

Product name : Frontline® pump spray

Synonyms : with API: Fipronil
Frontline® Spray against fleas and ticks

Manufacturer or supplier's details

Company name of supplier : Boehringer Ing. Pharma GmbH & Co.KG

Address : Binger Str. 173
Ingelheim am Rhein 07 55216

Telephone : +498007790900

Prepared by : EHS-Services@Boehringer-Ingelheim.com

Emergency telephone number : Int. Emergency Telephone number: +1 703-527-3887
Chemtrec 24-hours

Recommended use of the chemical and restrictions on use

Recommended use : Pharmaceutical

Restrictions on use : Safety Data Sheet only for the professional user.

SECTION 2. HAZARDS IDENTIFICATION**GHS classification in accordance with 29 CFR 1910.1200**

Flammable liquids : Category 2

Eye irritation : Category 2A

Specific target organ toxicity - single exposure : Category 3 (Central nervous system)

GHS label elements

Hazard pictograms :  

Signal word : Danger

Hazard statements : H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

Precautionary statements : **Prevention:**

Frontline® pump spray

Version	Revision Date:	SDS Number:	Date of last issue: 03/13/2017
2.1	03/13/2017	000000049035	Date of first issue: 02/17/2017

P210 Keep away from heat/sparks/open flames/hot surfaces.
No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ eye protection/ face protection.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture
Chemical nature : organic
Substance name : with API: Fipronil

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
Isopropyl alcohol	67-63-0	>= 70 - < 90

Frontline® pump spray

Version	Revision Date:	SDS Number:	Date of last issue: 03/13/2017
2.1	03/13/2017	000000049035	Date of first issue: 02/17/2017

SECTION 4. FIRST AID MEASURES

- | | | |
|---|---|--|
| General advice | : | In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
First Aid responders should pay attention to self-protection and use the recommended protective clothing
Remove from exposure, lie down.
Take off immediately all contaminated clothing.
Victim to lie down in the recovery position, cover and keep him warm. |
| If inhaled | : | Move to fresh air. |
| In case of skin contact | : | Wash off immediately with plenty of water. |
| In case of eye contact | : | Rinse immediately with plenty of water for at least 15 minutes.
Keep eye wide open while rinsing. |
| If swallowed | : | Rinse mouth.
Drink plenty of water. |
| Most important symptoms and effects, both acute and delayed | : | No information available.
Causes serious eye irritation.
May cause drowsiness or dizziness. |
| Notes to physician | : | Observe the summary of product characteristics of proprietary medicinal products
Symptomatic treatment (decontamination, vital functions). |

SECTION 5. FIREFIGHTING MEASURES

- | | | |
|---|---|---|
| Suitable extinguishing media | : | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Water
Dry chemical
Foam
Carbon dioxide (CO ₂) |
| Specific hazards during fire-fighting | : | In case of fire and/or explosion do not breathe fumes.
Can be released in case of fire:
Carbon oxides |
| Further information | : | Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. |
| Special protective equipment for firefighters | : | In the event of fire, wear self-contained breathing apparatus.
complete suit protecting against chemicals |

SECTION 6. ACCIDENTAL RELEASE MEASURES

- | | | |
|-------------------------------|---|-------------------------------------|
| Personal precautions, protec- | : | Wear personal protective equipment. |
|-------------------------------|---|-------------------------------------|

SAFETY DATA SHEET



Frontline® pump spray

Version 2.1 Revision Date: 03/13/2017 SDS Number: 000000049035 Date of last issue: 03/13/2017
Date of first issue: 02/17/2017

tive equipment and emergency procedures Ensure adequate ventilation.
High risk of slipping due to leakage/spillage of product.

Environmental precautions : Do not flush into surface water or sanitary sewer system.

Methods and materials for containment and cleaning up : Pick up and transfer to properly labelled containers.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Keep away from heat and sources of ignition.

Advice on safe handling : Provide sufficient air exchange and/or exhaust in work rooms.

Conditions for safe storage : Protect from heat and direct sunlight.

Materials to avoid : Keep away from food, drink and animal feedingstuffs.
Advice on Segregation

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Isopropyl alcohol	propan-2-ol	TWA	200 ppm 492 mg/m ³	CA AB OEL
		STEL	400 ppm 984 mg/m ³	CA AB OEL
		TWA	200 ppm	CA BC OEL
		STEL	400 ppm	CA BC OEL
		TWAEV	400 ppm 983 mg/m ³	CA QC OEL
		STEV	500 ppm 1,230 mg/m ³	CA QC OEL
		TWA	200 ppm	ACGIH
		STEL	400 ppm	ACGIH
		TWA	400 ppm 980 mg/m ³	NIOSH REL
		ST	500 ppm 1,225 mg/m ³	NIOSH REL
		TWA	400 ppm 980 mg/m ³	OSHA Z-1
		TWA	400 ppm 980 mg/m ³	OSHA P0

Frontline® pump spray

Version 2.1 Revision Date: 03/13/2017 SDS Number: 000000049035 Date of last issue: 03/13/2017
 Date of first issue: 02/17/2017

		STEL	500 ppm 1,225 mg/m ³	OSHA P0
--	--	------	------------------------------------	---------

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sam-pling time	Permissible concentra-tion	Basis
Isopropanol, Isoprop- anol	67-63-0, 67-63-0	Acetone	Urine	End of shift at end of work- week	40 mg/l	ACGIH BEI

Engineering measures : Not applicable

Personal protective equipment

Respiratory protection : Use NIOSH approved respiratory protection.

Hand protection

Material : Nitrile rubber
 Break through time : 480 min
 Glove thickness : 0.43 mm
 Directive : Protective gloves against chemicals and micro-organisms
 Protective index : Class 6

Eye protection : Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.
 Safety glasses with side-shields

Skin and body protection : Protective work clothing

Protective measures : Handle in accordance with good industrial hygiene and safety practice.
 Avoid contact with skin, eyes and clothing.
 Only use protective equipment in accordance with national/international regulations. Follow the national regulations about wearing personal protective equipment and the warranty given by the manufacturer for the safe function.

Hygiene measures : General industrial hygiene practice.
 Wash hands and face before breaks and immediately after handling the product.
 Keep working clothes separately.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid
 Colour : No data available
 Odour : alcohol-like

SAFETY DATA SHEET

Frontline® pump spray



Version 2.1	Revision Date: 03/13/2017	SDS Number: 000000049035	Date of last issue: 03/13/2017 Date of first issue: 02/17/2017
----------------	------------------------------	-----------------------------	---

pH	:	No data available
	:	No data available
Boiling point/boiling range	:	82 °C (related to the solvent(s))
Flash point	:	12 °C (related to the solvent(s))
Evaporation rate	:	No data available
Upper explosion limit	:	12.7 %(V) (related to the solvent(s))
Lower explosion limit	:	2 %(V) (related to the solvent(s))
Vapour pressure	:	43 hPa (20 °C)
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	No data available
Bulk density	:	Not applicable
Solubility(ies) Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No decomposition if used as directed.
Viscosity Viscosity, dynamic	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	No data available
Conditions to avoid	:	Extremes of temperature and direct sunlight.
Incompatible materials	:	No data available
Hazardous decomposition	:	No data available

Frontline® pump spray

Version	Revision Date:	SDS Number:	Date of last issue: 03/13/2017
2.1	03/13/2017	000000049035	Date of first issue: 02/17/2017

products

SECTION 11. TOXICOLOGICAL INFORMATION**Acute toxicity**

Not classified based on available information.

Components:**Isopropyl alcohol:**

Acute oral toxicity : LD0 (Humans): = 3,570 mg/kg
LD50 (Rat): = 5,840 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): = 46.5 mg/l
Exposure time: 4 h
Test atmosphere: vapour
LC50 (Rat): 10000 ppm
Exposure time: 6 h
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit): = 12,800 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Components:**Isopropyl alcohol:**

Species: Rabbit

Result: Mild skin irritation

Remarks: Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin resulting in desiccation of the skin.

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:**Isopropyl alcohol:**

Species: Rabbit

Result: Irritation to eyes, reversing after 7 to 21 days

Assessment: Irritating to eyes.

Method: OECD Test Guideline 405

Respiratory or skin sensitisation**Skin sensitisation**

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Frontline® pump spray

Version	Revision Date:	SDS Number:	Date of last issue: 03/13/2017
2.1	03/13/2017	000000049035	Date of first issue: 02/17/2017

Components:**Isopropyl alcohol:**

Species: Guinea pig

Result: Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity

Not classified based on available information.

Components:**Isopropyl alcohol:**

Genotoxicity in vitro	:	Test Type: Ames-test
		Result: negative

Genotoxicity in vivo	:	Test Type: Micronucleus test
		Result: negative

Carcinogenicity

Not classified based on available information.

Components:**Isopropyl alcohol:**

Remarks: Did not show carcinogenic effects in animal experiments.

IARC

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information.

Components:**Isopropyl alcohol:**

Effects on fertility	:	Remarks: Experiments have shown no reproductive toxicity effects on laboratory animals.
----------------------	---	---

Effects on foetal development	:	Remarks: No indications of a developmental toxic / teratogenic effect were seen in animal studies.
-------------------------------	---	--

STOT - single exposure

May cause drowsiness or dizziness.

Frontline® pump spray

Version	Revision Date:	SDS Number:	Date of last issue: 03/13/2017
2.1	03/13/2017	000000049035	Date of first issue: 02/17/2017

Components:**Isopropyl alcohol:**

Assessment: May cause drowsiness or dizziness.

STOT - repeated exposure

Not classified based on available information.

Components:**Isopropyl alcohol:**

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration toxicity

Not classified based on available information.

Components:**Isopropyl alcohol:**

No data available

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Components:****Isopropyl alcohol:**Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): = 9,640 mg/l
Exposure time: 48 hLC50 (Lepomis macrochirus (Bluegill sunfish)): = 1,400 mg/l
Exposure time: 96 hToxicity to daphnia and other : EC50 (Daphnia (water flea)): = 13,299 mg/l
aquatic invertebrates Exposure time: 48 hToxicity to algae : EC50 (Algae): > 1,000 mg/l
Exposure time: 72 hToxicity to fish (Chronic tox- : Remarks: No data available
icity)Toxicity to daphnia and other : Remarks: No data available
aquatic invertebrates (Chron-
ic toxicity)Toxicity to microorganisms : EC50 (Photobacterium phosphoreum): = 22,000 mg/l
Exposure time: 15 hEC5 (Pseudomonas putida): = 1,050 mg/l
Exposure time: 16 h

Frontline® pump spray

Version	Revision Date:	SDS Number:	Date of last issue: 03/13/2017
2.1	03/13/2017	000000049035	Date of first issue: 02/17/2017

Persistence and degradability**Components:****Isopropyl alcohol:**

Biodegradability : Result: Readily biodegradable.
Biodegradation: 95 %
Exposure time: 21 d
Method: OECD 301 E Guideline

Chemical Oxygen Demand (COD) : 2,320 mg/g

BOD/COD : BOD/COD: 62 %

ThOD : 2,400 mg/g

Bioaccumulative potential**Components:****Isopropyl alcohol:**

Bioaccumulation : Remarks: No bioaccumulation is to be expected (log P(o/w)<1).

Partition coefficient: n-octanol/water : log Pow: 0.05
Method: OECD Test Guideline 107

Mobility in soil**Components:****Isopropyl alcohol:**

Distribution among environmental compartments : Remarks: No data available

Other adverse effects**Product:**

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Components:**Isopropyl alcohol:**

Additional ecological information : No data available

Frontline® pump spray

Version	Revision Date:	SDS Number:	Date of last issue: 03/13/2017
2.1	03/13/2017	000000049035	Date of first issue: 02/17/2017

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

- Waste from residues : Dispose of in accordance with local regulations.
Must not be disposed off together with household garbage. Do not allow product to reach sewage system.
- Contaminated packaging : Packs that cannot be cleaned should be disposed of in the same manner as the contents.
Uncontaminated packaging can be recycled.

SECTION 14. TRANSPORT INFORMATION**International Regulations****IATA-DGR**

- UN/ID No. : UN 1993
- Proper shipping name : Flammable liquid, n.o.s.
(Isopropanol)
- Class : 3
- Packing group : II
- Labels : Flammable Liquids
- Packing instruction (cargo aircraft) : 364
- Packing instruction (passenger aircraft) : 353

IMDG-Code

- UN number : UN 1993
- Proper shipping name : FLAMMABLE LIQUID, N.O.S.
(Isopropanol)
- Class : 3
- Packing group : II
- Labels : 3
- EmS Code : F-E, S-E
- Marine pollutant : no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations**49 CFR**

- UN/ID/NA number : UN 1993
- Proper shipping name : Flammable liquids, n.o.s.
(Isopropanol)
- Class : 3
- Packing group : II
- Labels : FLAMMABLE LIQUID
- ERG Code : 128
- Marine pollutant : no

Frontline® pump spray

Version	Revision Date:	SDS Number:	Date of last issue: 03/13/2017
2.1	03/13/2017	000000049035	Date of first issue: 02/17/2017

SECTION 15. REGULATORY INFORMATION**EPCRA - Emergency Planning and Community Right-to-Know Act****CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Fire Hazard
Acute Health Hazard

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

Isopropyl alcohol	propan-2-ol	70 - 90 %
-------------------	-------------	-----------

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

Isopropyl alcohol	propan-2-ol	73 %
-------------------	-------------	------

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations**Massachusetts Right To Know**

Isopropyl alcohol	propan-2-ol
-------------------	-------------

Pennsylvania Right To Know

Isopropyl alcohol	propan-2-ol
-------------------	-------------

The components of this product are reported in the following inventories:

REACH : Not in compliance with the inventory

DSL : This product contains the following components that are not on the Canadian DSL nor NDSL.

Fipronil

SAFETY DATA SHEET



Frontline® pump spray

Version 2.1	Revision Date: 03/13/2017	SDS Number: 000000049035	Date of last issue: 03/13/2017 Date of first issue: 02/17/2017
----------------	------------------------------	-----------------------------	---

AICS	: Not in compliance with the inventory
NZIoC	: On the inventory, or in compliance with the inventory
ENCS	: Not in compliance with the inventory
ISHL	: Not in compliance with the inventory
KECI	: On the inventory, or in compliance with the inventory
PICCS	: Not in compliance with the inventory
IECSC	: Not in compliance with the inventory
TCSI	: Not in compliance with the inventory
TSCA	: Not On TSCA Inventory

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

Canadian lists

No substances are subject to a Significant New Activity Notification.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Develop-

SAFETY DATA SHEET

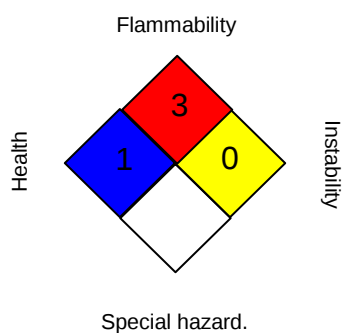
Frontline® pump spray

Version	Revision Date:	SDS Number:	Date of last issue: 03/13/2017
2.1	03/13/2017	000000049035	Date of first issue: 02/17/2017

ment; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Further information

NFPA:



HMIS® IV:

HEALTH	/	1
FLAMMABILITY		3
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Vertical lines in the left hand margin indicate an amendment from the previous version.

Sources of key data used to compile the Safety Data Sheet : The specifications are based on own tests and/or literature data.

Revision Date : 03/13/2017

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

US / EN