

SAFETY DATA SHEET

FB® 400

Revision Date: 01/25/2018

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

- Trade name **FB® 400**

1.2 Relevant identified uses of the substance or mixture and uses advised against

Uses of the Substance / Mixture

- Bleaching agents
- Cleaning agent
- Oxidizing agents

1.3 Details of the supplier of the safety data sheet

Company

SOLVAY CHEMICALS, INC.
 3737 Buffalo Speedway,
 Suite 800,
 Houston, TX 77098
 USA
 Tel: +1-800-7658292; +1-713-5256800
 Fax: +1-713-5257804

1.4 Emergency telephone

FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CONTACT CHEMTREC (24-Hour Number): 800-424-9300 within the United States and Canada, or 703-527-3887 for international collect calls.

SECTION 2: Hazards identification

Although OSHA has not adopted the environmental portion of the GHS regulations, this document may include information on environmental effects.

2.1 Classification of the substance or mixture

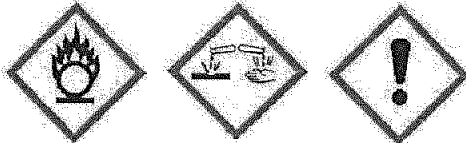
HCS 2012 (29 CFR 1910.1200)

Oxidizing solids, Category 3	H272: May intensify fire; oxidizer.
Acute toxicity, Category 4	H302: Harmful if swallowed.
Serious eye damage, Category 1	H318: Causes serious eye damage.

2.2 Label elements

HCS 2012 (29 CFR 1910.1200)

Pictogram



Signal Word

- Danger

Hazard Statements

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- H272 May intensify fire; oxidizer.
- H302 Harmful if swallowed.
- H318 Causes serious eye damage.

Precautionary Statements

Prevention

- P210 Keep away from heat.
- P220 Keep/Store away from clothing/ combustible materials.
- P221 Take any precaution to avoid mixing with combustibles.
- P264 Wash skin thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P280 Wear protective gloves/ eye protection/ face protection.

Response

- P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
- P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
- P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

2.3 Other hazards which do not result in classification

- H401: Toxic to aquatic life.

SECTION 3: Composition/information on ingredients

3.1 Substance

- Not applicable, this product is a mixture.

3.2 Mixture

- Chemical nature Multi constituent substance
Stabilized product

Hazardous Ingredients and Impurities

Chemical name	Identification number CAS-No.	Concentration [%]
Carbonic acid sodium salt (1:2), compd. with hydrogen peroxide (H2O2) (2:3)	15630-89-4	>= 80 - < 90
Carbonic acid sodium salt (1:2)	497-19-8	>= 10 - < 15

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1 Description of first-aid measures

In case of inhalation

- Move to fresh air.
- If symptoms persist, call a physician.

In case of skin contact

- Wash off with soap and water.
- If symptoms persist, call a physician.



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In case of eye contact

- Call a physician or poison control center immediately.
- In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- In the case of difficulty of opening the lids, administer an analgesic eye wash (oxybuprocaine).

In case of ingestion

- Rinse mouth with water.
- Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

In case of inhalation

Effects

- May cause nose, throat, and lung irritation.

In case of skin contact

Effects

- Prolonged skin contact may cause skin irritation.

In case of eye contact

Symptoms

- Redness
- Lachrymation
- Swelling of tissue

Effects

- Corrosive
- May cause irreversible eye damage.

In case of ingestion

Symptoms

- Severe irritation
- Nausea
- Abdominal pain
- Vomiting
- Diarrhea

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician

- Immediate medical attention is required.
- If accidentally swallowed obtain immediate medical attention.
- Oxygen or artificial respiration if needed.

SECTION 5: Firefighting measures

<u>Flash point</u>	Not applicable
<u>Autoignition temperature</u>	No data available
<u>Flammability / Explosive limit</u>	No data available

5.1 Extinguishing media



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Suitable extinguishing media

- Water
- Water spray

Unsuitable extinguishing media

- None.

5.2 Special hazards arising from the substance or mixture

- Oxidizing
- Oxygen released in thermal decomposition may support combustion.
- Contact with combustible material may cause fire.
- Contact with flammables may cause fire or explosions.
- Risk of explosion if heated under confinement.

5.3 Advice for firefighters

Special protective equipment for fire-fighters

- In the event of fire, wear self-contained breathing apparatus.
- Use personal protective equipment.
- Cool containers/tanks with water spray.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel

- Keep away from incompatible products

Advice for emergency responders

- Sweep up to prevent slipping hazard.

6.2 Environmental precautions

- Should not be released into the environment.
- Limited quantity
- Flush into sewer with plenty of water.
- Large quantities:
- If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and materials for containment and cleaning up

- Sweep up and shovel into suitable containers for disposal.
- Do not mix waste streams during collection.
- Avoid dust formation.
- Treat recovered material as described in the section "Disposal considerations".
- All receiving equipment should be clean, vented, dry, labeled and made of material that is compatible with the product.
- Never return spills in original containers for re-use.

6.4 Reference to other sections

- Refer to protective measures listed in sections 7 and 8.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Avoid dust formation.
- Ensure adequate ventilation.
- Keep away from heat and sources of ignition.
- Use only clean and dry utensils.
- Never return unused material to storage receptacle.
- Keep away from water.
- Keep away from incompatible products.

Hygiene measures

- Eye wash bottles or eye wash stations in compliance with applicable standards.
- Handle in accordance with good industrial hygiene and safety practice for diagnostics.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions

- Keep only in the original container.
- Keep at temperature not exceeding 40°C
- Store in a receptacle equipped with a vent.
- Keep in a well-ventilated place.
- Keep in a dry place.
- Keep in properly labeled containers.
- Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- Keep away from incompatible products.

Packaging material

Suitable material

- Stainless steel
- Plastic materials
- Paper + PE coating

Unsuitable material

- No data available

7.3 Specific end use(s)

- Contact your supplier for additional information

SECTION 8: Exposure controls/personal protection

Introductory Remarks: These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

8.1 Control parameters

Components with workplace occupational exposure limits

Ingredients	Value type	Value	Basis
Carbonic acid sodium salt (1:2), compd. with hydrogen peroxide (H2O2) (2:3)	TWA	5 mg/m3	Solvay Acceptable Exposure Limit
Carbonic acid sodium salt (1:2)	TWA	10 mg/m3	Solvay Acceptable Exposure Limit



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8.2 Exposure controls

Control measures

Engineering measures

- Avoid dust formation.
- Provide appropriate exhaust ventilation at places where dust is formed.
- Apply technical measures to comply with the occupational exposure limits.

Individual protection measures

Hand protection

- Wear suitable gloves.
- Non-recommended materials: Leather, cotton.

Suitable material

- PVC
- Neoprene
- Natural Rubber

Eye protection

- Dust proof goggles obligatory.

Skin and body protection

- Wear suitable protective clothing.

Hygiene measures

- Eye wash bottles or eye wash stations in compliance with applicable standards.
- Handle in accordance with good industrial hygiene and safety practice for diagnostics.

SECTION 9: Physical and chemical properties

Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product information phone number in Section 1 for its exact specifications.

9.1 Information on basic physical and chemical properties

<u>Appearance</u>	<u>Form:</u> powder
	<u>Physical state:</u> solid
	<u>Color:</u> white

Odor odorless

Odor Threshold No data available

Molecular weight 314.06 g/mol

pH 10.4 - 10.6 (10.1 g/l)

Melting point/freezing point No data available

Initial boiling point and boiling range Boiling point/boiling range:
Not applicable

Flash point Not applicable



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<u>Evaporation rate (Butylacetate = 1)</u>	No data available
<u>Flammability (solid, gas)</u>	The product is not flammable.
<u>Flammability / Explosive limit</u>	<u>Explosiveness:</u> Not explosive
<u>Autoignition temperature</u>	No data available
<u>Vapor pressure</u>	Not applicable
<u>Vapor density</u>	Not applicable
<u>Density</u>	<u>Bulk density:</u> 950 - 1,200 kg/m ³
<u>Relative density</u>	No data available
<u>Solubility</u>	<u>Water solubility:</u> 150 g/l (68 °F (20 °C))
<u>Partition coefficient: n-octanol/water</u>	Not applicable
<u>Decomposition temperature</u>	Self-Accelerating decomposition temperature (SADT)
<u>Decomposition temperature</u>	> 131 °F (> 55 °C) 50 kg
<u>Viscosity</u>	<u>Viscosity, dynamic:</u> Not applicable
<u>Explosive properties</u>	No data available
<u>Oxidizing properties</u>	The substance or mixture is classified as oxidizing with the category 3: Oxidizing

9.2 Other information:

No data available

Henry's Constant Air

SECTION 10: Stability and reactivity

10.1 Reactivity

- Decomposes when moist.
- Decomposes on heating.
- Potential for exothermic hazard

10.2 Chemical stability

- Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

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- Contact with combustible material may cause fire.
- Contact with flammables may cause fire or explosions.
- Risk of explosion if heated under confinement.
- Fire or intense heat may cause violent rupture of packages.

10.4 Conditions to avoid

- Exposure to moisture.
- To avoid thermal decomposition, do not overheat.

10.5 Incompatible materials

- Water
- Acids
- Bases
- Heavy metal salts
- Reducing agents
- Organic materials
- Flammable materials
- Combustible material

10.6 Hazardous decomposition products

- Oxygen

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity	LD50: 1,034 mg/kg - Rat
Acute inhalation toxicity	LC0 - 1 h > 4,580 mg/m3 - Rat
Acute dermal toxicity	LD 10: > 2,000 mg/kg - Rabbit
Acute toxicity (other routes of administration)	No data available

Skin corrosion/irritation

Rabbit
slight irritation

Serious eye damage/eye irritation

Rabbit
Risk of serious damage to eyes.

Respiratory or skin sensitization

Carbonic acid sodium salt (1:2), compd. with hydrogen peroxide (H2O2) (2:3) Buehler Test - Guinea pig
Does not cause skin sensitization.
Unpublished reports

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Mutagenicity

Genotoxicity in vitro

Carbonic acid sodium salt (1:2), compd. with hydrogen peroxide (H2O2) (2:3) By analogy
In vitro tests showed mutagenic effects
Published data

Carbonic acid sodium salt (1:2) By analogy
Ames test
with metabolic activation
Product is not considered to be genotoxic
Published data

Strain: Escherichia coli
without metabolic activation

negative
Product is not considered to be genotoxic
Published data

Genotoxicity in vivo

Carbonic acid sodium salt (1:2), compd. with hydrogen peroxide (H2O2) (2:3) By analogy
Product is not considered to be genotoxic
Published data

Carcinogenicity

No data available

This product does not contain any ingredient designated as probable or suspected human carcinogens by:

- NTP
- IARC
- OSHA

Toxicity for reproduction and development

Toxicity to reproduction / fertility

Carbonic acid sodium salt (1:2), compd. with hydrogen peroxide (H2O2) (2:3) By analogy, The product is not considered to affect fertility. Published data

Developmental Toxicity/Teratogenicity

Carbonic acid sodium salt (1:2), compd. with hydrogen peroxide (H2O2) (2:3) By analogy, The product is not considered to be embryotoxic / fetotoxic. Published data

Carbonic acid sodium salt (1:2) Oral
General Toxicity Maternal NOAEL: >= 580 mg/kg
Teratogenicity NOAEL: >= 580mg/kg
according to a standardized method
no embryotoxic or teratogenic effects have been observed, Unpublished reports



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STOT

STOT-single exposure

Carbonic acid sodium salt (1:2), compd. with hydrogen peroxide (H2O2) (2:3) The substance or mixture is not classified as specific target organ toxicant, single exposure according to GHS criteria.

Carbonic acid sodium salt (1:2) The substance or mixture is not classified as specific target organ toxicant, single exposure according to GHS criteria, internal evaluation.

STOT-repeated exposure

Carbonic acid sodium salt (1:2), compd. with hydrogen peroxide (H2O2) (2:3) By analogy, The substance or mixture is not classified as specific target organ toxicant, repeated exposure according to GHS criteria.

Carbonic acid sodium salt (1:2) The substance or mixture is not classified as specific target organ toxicant, repeated exposure according to GHS criteria, internal evaluation.

Carbonic acid sodium salt (1:2), compd. with hydrogen peroxide (H2O2) (2:3) By analogy:
90-day - Rat
NOAEL: 100 ppm
Test substance: Hydrogen peroxide
Target Organs: Gastrointestinal tract
Method: OECD Test Guideline 408
drinking water
Unpublished reports

Experience with human exposure No data available.

Aspiration toxicity

Carbonic acid sodium salt (1:2), compd. with hydrogen peroxide (H2O2) (2:3) Not applicable, Expert judgment, No aspiration toxicity classification.

Further information

Harmful if swallowed.
Risk of serious damage to eyes.
Irritating to respiratory system and skin.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic Compartment

Acute toxicity to fish LC50: 71 mg/l - Pimephales promelas (fathead minnow)
NOEC -96 h: 7.4 mg/l - Pimephales promelas (fathead minnow)



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Acute toxicity to daphnia and other aquatic invertebrates. EC50 : 4.9 mg/l - Daphnia pulex (Water flea)

NOEC -48 h : 2 mg/l - Daphnia pulex (Water flea)

Toxicity to aquatic plants

Carbonic acid sodium salt (1:2), compd. with hydrogen peroxide (H2O2) (2:3) ErC50 - 72 h : 2.62 mg/l - Skeletonema costatum (marine diatom) static test
 Analytical monitoring: yes
 Test substance: Hydrogen peroxide
 By analogy
 Unpublished reports
 Toxic to algae

Toxicity to microorganisms No data available

Chronic toxicity to fish No data available

Chronic toxicity to daphnia and other aquatic invertebrates. No data available

Chronic Toxicity to aquatic plants No data available

12.2 Persistence and degradability

Abiotic degradation

Stability in water Medium, Water, Soil, Hydrolysis
Photodegradation: Not applicable

Physical- and photo-chemical elimination

No data available

Biodegradation

Biodegradability The methods for determining biodegradability are not applicable to inorganic substances.

Degradability assessment

Carbonic acid sodium salt (1:2), compd. with hydrogen peroxide (H2O2) (2:3) The product is not considered to be rapidly degradable in the environment
 Carbonic acid sodium salt (1:2) The product is not considered to be rapidly degradable in the environment

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water No data available



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Bioconcentration factor (BCF) Not applicable

12.4 Mobility in soil

Adsorption potential (Koc)

Air
Not applicable

Water
considerable solubility and mobility

Soil/sediments
non-significant adsorption

Known distribution to environmental compartments

Carbonic acid sodium salt (1:2), compd. Expert statement
with hydrogen peroxide (H2O2) (2:3) Not applicable

12.5 Results of PBT and vPvB assessment This substance is not considered to be persistent, bioaccumulating and toxic (PBT).
This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6 Other adverse effects

Ecotoxicity assessment

Acute aquatic toxicity

Carbonic acid sodium salt (1:2), compd. Toxic to aquatic life.
with hydrogen peroxide (H2O2) (2:3)
Carbonic acid sodium salt (1:2) Not harmful to aquatic life (LC/LL50, EC/EL50 > 100 mg/L)

Chronic aquatic toxicity

Carbonic acid sodium salt (1:2), compd. Not classified due to data which are conclusive although insufficient for
with hydrogen peroxide (H2O2) (2:3) classification.
Carbonic acid sodium salt (1:2) Not classified due to data which are conclusive although insufficient for
classification.

Remarks

Contains a(many) hazardous substance(s) for the environment. Under massive form, product is biologically inert and non-degradable. Ingestion of solids may cause harm to wildlife due to intestinal mechanical blockage or starvation from false feeling of satiation.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product Disposal

- Dilute with plenty of water.
- Dispose of wastes in an approved waste disposal facility.
- Can be landfilled, when in compliance with local regulations.

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- In accordance with local and national regulations.

Advice on cleaning and disposal of packaging

- Clean container with water.
- Empty containers should be taken to an approved waste handling site for recycling or disposal.
- Uncleaned empty packaging
- Dispose of as unused product.
- In accordance with local and national regulations.

SECTION 14: Transport Information

Transportation status: IMPORTANT! Statements below provide additional data on listed transport classification. The listed Transportation Classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors.

DOT

14.1 UN number: UN 3378

14.2 Proper shipping name: SODIUM CARBONATE PEROXYHYDRATE

14.3 Transport hazard class Label(s): 5.1
5.1

14.4 Packing group: III
Packing group: III
ERG No: 140

14.5 Environmental hazards: NO
Marine pollutant

TDG

14.1 UN number: UN 3378

14.2 Proper shipping name: SODIUM CARBONATE PEROXYHYDRATE

14.3 Transport hazard class Label(s): 5.1
5.1

14.4 Packing group: III
Packing group: III
ERG No: 140

14.5 Environmental hazards: NO
Marine pollutant

NOM

14.1 UN number: UN 3378

14.2 Proper shipping name: SODIUM CARBONATE PEROXYHYDRATE

14.3 Transport hazard class: 5.1

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Label(s) 5.1

14.4 Packing groupPacking group III
ERG No. 140**14.5 Environmental hazards**

Marine pollutant NO

IMDG**14.1 UN number** UN 3378**14.2 Proper shipping name** SODIUM CARBONATE PEROXYHYDRATE**14.3 Transport hazard class** 5.1

Label(s) 5.1

14.4 Packing group

Packing group III

14.5 Environmental hazards

Marine pollutant NO

14.6 Special precautions for user

EmS: F-A, S-Q

For personal protection see section 8.

IATA**14.1 UN number** UN 3378**14.2 Proper shipping name** SODIUM CARBONATE PEROXYHYDRATE**14.3 Transport hazard class** 5.1

Label(s) 5.1

14.4 Packing group

Packing group III

Packing instruction (cargo aircraft) 563

Max net qty / pkg 100.00 kg

Packing instruction (passenger aircraft) 559

Max net qty / pkg 25.00 kg

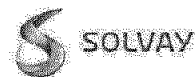
14.5 Environmental hazards NO**14.6 Special precautions for user**

For personal protection see section 8.

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transportation regulations for hazardous materials, it would be advisable to check their validity with your sales office.

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SECTION 15: Regulatory information

15.1 Notification status

Inventory Information	Status
United States TSCA Inventory	- Listed on Inventory
Canadian Domestic Substances List (DSL)	- Listed on Inventory
Australia Inventory of Chemical Substances (AICS)	- Listed on Inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	- Listed on Inventory
Korea. Korean Existing Chemicals Inventory (KECI)	- Listed on Inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	- Listed on Inventory
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	- Listed on Inventory
EU. European Registration, Evaluation, Authorisation and Restriction of Chemical (REACH)	+ If product is purchased from Solvay in Europe it is in compliance with REACH, if not please contact the supplier.

15.2 Federal Regulations

US. EPA EPCRA SARA Title III

SARA HAZARD DESIGNATION SECTIONS 311/312 (40 CFR 370)

Oxidizer (liquid, solid or gas)	Yes
Acute toxicity (any route of exposure)	Yes
Serious eye damage or eye irritation	Yes

The categories not mentioned are not relevant for the product.

Section 313 Toxic Chemicals (40 CFR 372.65)

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Section 302 Emergency Planning Extremely Hazardous Substance Threshold Planning Quantity (40 CFR 355)

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

Section 302 Emergency Planning Extremely Hazardous Substance Reportable Quantity (40 CFR 355)

This material does not contain any components with a SARA 302 RQ.

Section 304 Emergency Release Notification Reportable Quantity (40 CFR 355)

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

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

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

15.3 State Regulations

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

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SECTION 16: Other information

Further information

- Product evaluated under the US GHS format.
- NSF permits use of this product as an oxidant at a maximum use rate of 33 mg/L.
- NSF permits use of this product as an algicide at a maximum use rate of 33 mg/L.

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- ACGIH American Conference of Governmental Industrial Hygienists
- OSHA Occupational Safety and Health Administration
- NTP National Toxicology Program
- IARC International Agency for Research on Cancer
- NIOSH National Institute for Occupational Safety and Health

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. Such information is only given as a guidance to help the user handle, use, process, store, transport, dispose, and release the product in satisfactory safety conditions and is not to be considered as a warranty or quality specification. It should be used in conjunction with technical sheets but do not replace them. Thus, the information only relates to the designated specific product and may not be applicable if such product is used in combination with other materials or in any other manufacturing process, unless otherwise specifically indicated. It does not release the user from ensuring he is in conformity with all regulations linked to its activity.