

## **SECTION 1. Identification of the substance/mixture and of the company/undertaking**

### **1.1. Product identifier**

Product code : Perfect Enzima  
Trades code : A36-005  
Product line: Tintolav

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

Enzymatic detergent powder  
Industrial Manufacturing[SU3], Public domain (administration, education, entertainment, services, craftsmen)[SU22]

Uses advised against  
Do not use for purposes other than those listed

### **1.3. Details of the supplier of the safety data sheet**

Tintolav s.r.l. - Via M. D' Antona 7 - 10028 Trofarello (TO) Tel. 011/649.68.27 Fax 011/649.67.42

Email: [info@tintolav.com](mailto:info@tintolav.com) - Sito internet: [www.tintolav.com](http://www.tintolav.com)

Email tecnico competente: [a.conedera@tintolav.com](mailto:a.conedera@tintolav.com)

National contact: Malta: Emergency Ambulance 112  
Accident & Emergency Department 2545 4030

### **1.4. Emergency telephone number**

The UK National Poisons Emergency number +44 (0)870 600 6266  
London: Emergency 24 hour telephone +44 (0) 207188 0100

## **SECTION 2. Hazards identification**

### **2.1. Classification of the substance or mixture**

2.1.1 Classification according to Regulation (EC) No 1272/2008:

Pictograms:  
GHS05, GHS07

Hazard Class and Category Code(s):  
Skin Irrit. 2, Eye Dam. 1

Hazard statement Code(s):  
H315 - Causes skin irritation.  
H318 - Causes serious eye damage.

If brought into contact with the skin, the product causes significant inflammation with erythema, scabs, or edema.  
If brought into contact with eyes, the product causes serious damages to eyes, such as an opaque cornea or injury to iris.

### **2.2. Label elements**

Labelling according to Regulation (EC) No 1272/2008:

Pictogram, Signal Word Code(s):  
GHS05 - Danger



**Hazard statement Code(s):**

H315 - Causes skin irritation.  
H318 - Causes serious eye damage.

**Supplemental Hazard statement Code(s):**

EUH208 - Contains 4-formylphenylboronic acid, perfume. May produce an allergic reaction.

**Precautionary statements:**
**Prevention**

P264 - Wash your hand thoroughly after handling.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

**Response**

P302+P352 - IF ON SKIN: Wash with plenty of water and soap  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P332+P313 - If skin irritation occurs: Get medical advice/attention.  
P362 - Take off contaminated clothing.

**Contains:**

disodium carbonate—hydrogen peroxide (2:3), Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts , sodium silicate, Alcohols, C12-15, ethoxylated (7 mol EO average molar ratio)

**Contains (Reg.EC 648/2004):**

5% < 15% anionic surfactants, oxygen-based bleaching agents, < 5% perfumes, enzymes, non-ionic surfactants, zeolites

For professional use only

**2.3. Other hazards**
**It Contains :**

perfume - Authorisation number: pRO

No information on other hazards

**SECTION 3. Composition/information on ingredients**
**3.1 Substances**

Irrilevant

**3.2 Mixtures**

Refer to paragraph 16 for full text of hazard statements

Substance	Concentration	Classification	Index	CAS	EINECS	REACH
sodium carbonate	> 20 <= 30%	Eye Irrit. 2, H319	011-005-00-2	497-19-8	207-838-8	01-2119485 498-19
disodium carbonate—hydrogen peroxide (2:3)	> 5 <= 10%	Ox. Sol. 2, H272; Acute Tox. 4, H302; Eye Dam. 1, H318		15630-89-4	239-707-6	01-2119457 268-30
Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts	> 1 <= 5%	Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Dam. 1, H318		68411-30-3	270-115-0	
sodium silicate	> 1 <= 5%	Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Dam. 1, H318		1344-09-8	215-687-4	
Alcohols, C12-15, ethoxylated (7	> 1 <= 5%	Skin Irrit. 2, H315;		68131-39-5	500-195-7	

Substance	Concentration	Classification	Index	CAS	EINECS	REACH
mol EO average molar ratio)		Eye Dam. 1, H318; Aquatic Acute 1, H400				
perfume - Authorisation number: pRO	> 0,1 <= 1%	Skin Sens. 1, H317; Aquatic Chronic 2, H411		Mixture	miscela	
Subtilisin	<= 0,1%	Skin Irrit. 2, H315; Eye Dam. 1, H318; Resp. Sens. 1, H334; STOT SE 3, H335	647-012-00-8	9014-01-1	232-752-2	01-2119480 434-38

## SECTION 4. First aid measures

### 4.1. Description of first aid measures

#### Inhalation:

Air the area. Move immediately the contaminated patient from the area and keep him at rest in a well ventilated area. If you feel unwell seek medical advice.

#### Direct contact with skin (of the pure product):

Take contaminated clothing Immediately off.

Wash immediately with plenty of running water and possibly with soap, the areas of the body that have, or are only suspected to have, come in contact with the product.

In case of contact with skin, wash immediately with water and soap

Warning: This product is toxic to skin contact. Consult a physician.

#### Direct contact with eyes (of the pure product):

Wash immediately and thoroughly with running water, keeping eyelids open for at least 10 minutes, then protect your eyes with a dry sterile gauze. Seek medical advice immediately

Do not use eye drops or ointments of any kind before the examination or advice from an oculist.

#### Ingestion:

Not hazardous. It's possible to give activated charcoal in water or liquid paraffin medicine

### 4.2. Most important symptoms and effects, both acute and delayed

No data available.

### 4.3. Indication of any immediate medical attention and special treatment needed

If skin irritation occurs: Get medical advice/attention.

## SECTION 5. Firefighting measures

### 5.1. Extinguishing media

#### Advised extinguishing agents:

Water spray, CO<sub>2</sub>, foam, dry chemical, depending on the materials involved in the fire.

#### Extinguishing means to avoid:

Water jets. Use water jets only to cool the surfaces of the containers exposed to fire.

### 5.2. Special hazards arising from the substance or mixture

No data available.

### **5.3. Advice for firefighters**

Use protection for the breathing apparatus

Safety helmet and full protective suit.

The spray water can be used to protect the people involved in the extinction

You may also use selfrespirator, especially when working in confined and poorly ventilated area and if you use halogenated extinguishers (Halon 1211 fluobrene, Solkan 123, NAF, etc...)

Keep containers cool with water spray

## **SECTION 6. Accidental release measures**

### **6.1. Personal precautions, protective equipment and emergency procedures**

6.1.1 For non-emergency personnel:

Leave the area surrounding the spill or release. Do not smoke

Wear mask, gloves and protective clothing.

6.1.2 For emergency responders:

Wear mask, gloves and protective clothing.

Eliminate all unguarded flames and possible sources of ignition. No smoking.

Provision of sufficient ventilation.

Evacuate the danger area and, in case, consult an expert.

### **6.2. Environmental precautions**

Contain spill

Inform the competent authorities.

Discharge the remains in compliance with the regulations

### **6.3. Methods and material for containment and cleaning up**

6.3.1 For containment:

Rapidly recover the product, wear a mask and protective clothing

Recover the product for reuse, if possible, or the removal.

6.3.2 For cleaning up:

After wiping up, wash with water the area and materials involved

6.3.3 Other information:

None in particular.

### **6.4. Reference to other sections**

Refer to paragraphs 8 and 13 for more information

## **SECTION 7. Handling and storage**

### **7.1. Precautions for safe handling**

At work do not eat or drink.

See also paragraph 8 below.

### **7.2. Conditions for safe storage, including any incompatibilities**

Keep in original container closed tightly. Do not store in open or unlabeled containers.

Keep containers upright and safe by avoiding the possibility of falls or collisions.

Store in a cool place, away from sources of heat and direct exposure of sunlight.

### 7.3. Specific end use(s)

Industrial Manufacturing:

Handle with extreme caution.

Store in a well ventilated place away from heat sources.

Public domain (administration, education, entertainment, services, craftsmen):

Handle with care. Store in a ventilated area and away from heat, keep the container tightly closed.

## SECTION 8. Exposure controls/personal protection

### 8.1. Control parameters

Related to contained substances:

disodium carbonate—hydrogen peroxide (2:3):

Specification: DNEL (EC) parameter: local short-term Dermal Effects Workers value: 12.8 mg/cm<sup>2</sup> specification: DNEL (EC) parameter: local long-term Dermal Effects Workers value: 12.8 mg/cm<sup>2</sup>

Specification: DNEL (EC) parameter: local long term Inhalation Effects Workers value: 5 mg/m<sup>3</sup>

Specification: DNEL (EC) parameter: local short-term Dermal Effects Population value: 6.4 mg/cm<sup>2</sup>

Specification: DNEL (EC) parameter: local long-term Dermal Effects Population value: 6.4 mg/cm<sup>2</sup>

Specification: PNEC STP (EC) value: 16.24 mg/l specification: PNEC (EC): freshwater Parameter value: 0.035 mg/l

Specification: PNEC (EC): seawater Parameter value: 0.035 mg/l

Specification: PNEC (EC): emission desultory Parameter value: 0.035 mg/l

Specification: TLV/TWA (EC): respirable fraction Parameter value: 3 mg/m<sup>3</sup>

Specification: TLV/TWA (EC): inhalable fraction Parameter value: 10 mg/m<sup>3</sup>

Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts:

DNELs

Dermal exposure-long term-systemic effects 170 mg/kg bw/day (worker)

Inhalative exposure-long term-systemic effects 12 mg/m (worker)

Subtilisin:

ACGIH TLV: Ceiling: 0.00006 mg/m<sup>3</sup> Ceiling (as crystalline active enzyme, listed under Subtilisins)

Belgium: 0.00006 mg/m<sup>3</sup> Maximum Limit Value (8 hours)

Denmark: Ceiling: 0.00006 mg/m<sup>3</sup>

Ireland: TWA: 0.00006 mg/m<sup>3</sup> STEL: 0.00006 mg/m<sup>3</sup>

Netherlands: Ceiling: 0.00006 mg/m<sup>3</sup>

Norway: 0.00006 mg/m<sup>3</sup> Ceiling

Portugal: Ceiling: 0.00006 mg/m<sup>3</sup>

Spain: VLA-EC: 0.00006 mg/m<sup>3</sup>

Sweden: 1 glycineunit/m<sup>3</sup> LLV 3 glycineunit/m<sup>3</sup> LLV

Switzerland: STEL: 0.00006 mg/m<sup>3</sup>

Germany: = 1 glycineunit/m<sup>3</sup> LLV = 3 glycineunit/m<sup>3</sup> LLV

United Kingdom: 0.00004 mg/m<sup>3</sup> TWA

### 8.2. Exposure controls

Appropriate engineering controls:

Industrial Manufacturing:

No specific monitoring foreseen

Public domain (administration, education, entertainment, services, craftsmen):

No specific monitoring foreseen

Individual protection measures:



(a) Eye / face protection  
When handling the pure product use safety glasses (spectacles cage) (EN 166).

(b) Skin protection

(i) Hand protection  
When handling the pure product use chemical resistant protective gloves (EN 374-1/EN374-2/EN374-3)

(ii) Other  
When handling the pure product wear full protective skin clothing.

(c) Respiratory protection  
Not needed for normal use.

(d) Thermal hazards  
No hazard to report

Environmental exposure controls:

Related to contained substances:

Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts:

PNECs

fresh water 0.268 mg/l (-)

intermittent releases 0.0167 mg/l (-)

marine water 0.0268 mg/l (-)

sediment 8.1 mg/kg sedimentdw (-)

Subtilisin:

The local authority must be informed if the losses cannot be limited

Waste water must be conveyed to the waste water treatment plant

## SECTION 9. Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical and chemical properties	Value	Determination method
Appearance	White powder with blue dots	
Odour	characteristic	
Odour threshold	not determined	
pH	10,2 @ sol. 1%	
Melting point/freezing point	not determined	
Initial boiling point and boiling range	not determined	
Flash point	not determined	ASTM D92
Evaporation rate	irrelevant	
Flammability (solid, gas)	not determined	
Upper/lower flammability or explosive limits	not determined	
Vapour pressure	not determined	
Vapour density	not determined	
Relative density	0,75 g/cm <sup>3</sup>	
Solubility	completely soluble in water	
Water solubility	completely soluble	
Partition coefficient: n-octanol/water	not determined	

Physical and chemical properties	Value	Determination method
Auto-ignition temperature	not determined	
Decomposition temperature	not determined	
Viscosity	not determined	
Explosive properties	not explosive	
Oxidising properties	non-oxidizing	

**9.2. Other information**

Content of VOC ready to use condition: 0,00 %

**SECTION 10. Stability and reactivity****10.1. Reactivity**

No reactivity hazards

**10.2. Chemical stability**

No hazardous reaction when handled and stored according to provisions.

**10.3. Possibility of hazardous reactions**

There are no hazardous reactions

**10.4. Conditions to avoid**

Nothing to report

**10.5. Incompatible materials**

It can generate inflammable gases to contact nitrides.

It can generate gases toxic to contact with aliphatic and aromatic amines, carbamate ditiocarbamate, thiol and others organic sulfide, nitrile, inorganic sulfide, inflammable and combustible material.

It can ignite in contact with alcohol and glycol, azotic compound, diazotic compound and idrazine, carbamate, ditio carbamate, thiol and others organic sulfide, nitrides, combustible and inflammable materials.

**10.6. Hazardous decomposition products**

Does not decompose when used for intended uses.

**SECTION 11. Toxicological information****11.1. Information on toxicological effects**

ATE(mix) oral = 6.799,0 mg/kg

ATE(mix) dermal = 0,0 mg/kg

ATE(mix) inhal = 0,0 mg/l/4 h

(a) acute toxicity: based on available data, the classification criteria are not met.

(b) skin corrosion/irritation If brought into contact with the skin, the product causes significant inflammation with

erythema, scabs, or edema.

disodium carbonate—hydrogen peroxide (2:3): Skin irritation (OECD 404): can be slightly irritating.

Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts: Strong irritant

sodium silicate: skin rabbit 500 mg/12:0 am severe;

(c) serious eye damage/irritation: If brought into contact with eyes, the product causes serious damages to eyes, such as an opaque cornea or injury to iris.

disodium carbonate—hydrogen peroxide (2:3): Eye irritation (OECD 405): severely irritating (determined on rabbit eyes)

Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts: Strong irritant with the danger of severe eye injury.

sodium silicate: eye rabbit 10 mg/12:0 am strict.

(d) respiratory or skin sensitization: Subtilisin: Respiratory system: substance-sensitizing (human experience)

(e) germ cell mutagenicity: Subtilisin: No indication of mutagenic effects (OECD TG 471, 473, 476)

(f) carcinogenicity: based on available data, the classification criteria are not met.

(g) reproductive toxicity: based on available data, the classification criteria are not met.

(h) specific target organ toxicity (STOT) single exposure: Subtilisin: Target organ-specific toxic (single exposure) Irritant, respiratory tract (ACGIH 2001)

(i) specific target organ toxicity (STOT) repeated exposure based on available data, the classification criteria are not met.

(j) aspiration hazard: based on available data, the classification criteria are not met.

Related to contained substances:

sodium carbonate:

INHALATION RISK: A harmful concentration of areodisperse particles can be reached quickly especially if crumbly.

Effects of short-term exposure: the substance is irritating to eyes, skin and respiratory tract.

Effects of REPEATED EXPOSURE or long term: the substance can affect the respiratory tract, causing perforation of the nasal septum. Repeated or prolonged contact with skin may cause dermatitis.

ACUTE HAZARDS/Symptoms Inhalation: Cough. Sore throat.

: SKIN Redness.

Ingestion: burning sensation in the throat and chest. Abdominal pain.

LD50 (rat) Oral (mg/kg body weight) = 4090

LD50 Dermal (rat or rabbit) (mg/kg body weight) = 117

CL50 Inhalation (rat) vapour/dust/mist/fume (mg/l/4h) or gas (ppmV/4h) = 5200

disodium carbonate—hydrogen peroxide (2:3):

Specification: LD50 Via oral administration: test Species: rat value: = 1034 mg/kg

Specification: LD50 Via oral administration: test Species: Rat (female) value: = 893 mg/kg

Specification: LD50 Via oral administration: test Species: Rat (male): Value = 1164 mg/kg

Specification: LD50 Dermal intake: test Species: rabbit value: > 2000 mg/kg

Specification: recruitment: LD50 Inhalation test Species: Rat value: = 700 mg/m<sup>3</sup>

LD50 (rat) Oral (mg/kg body weight) = 893

LD50 Dermal (rat or rabbit) (mg/kg body weight) = 2000

CL50 Inhalation (rat) vapour/dust/mist/fume (mg/l/4h) or gas (ppmV/4h) = 700

Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts:

LD50 (rat) Oral (mg/kg body weight) = 1080

LD50 Dermal (rat or rabbit) (mg/kg body weight) = 2000

sodium silicate:

LD50 (rat) Oral (mg/kg body weight) = 3400

LD50 Dermal (rat or rabbit) (mg/kg body weight) = 5000

CL50 Inhalation (rat) vapour/dust/mist/fume (mg/l/4h) or gas (ppmV/4h) = 2,06

Alcohols, C12-15, ethoxylated (7 mol EO average molar ratio):

Acute Dermal LD50 Rabbit: > 2000 mg/kg

Acute Oral LD50 Rat: > 2000 mg/kg

LD50 (rat) Oral (mg/kg body weight) = 2000

LD50 Dermal (rat or rabbit) (mg/kg body weight) = 2000

Subtilisin:

LD50 (rat) Oral (mg/kg body weight) = 1800

CL50 Inhalation (rat) vapour/dust/mist/fume (mg/l/4h) or gas (ppmV/4h) = 0,13

## SECTION 12. Ecological information

### 12.1. Toxicity

Related to contained substances:

sodium carbonate:

Use in accordance with the working practices, avoiding to disperse the product in the environment.

LC100 Fish other: finish stairs carp 1110mg/L, 6:0, Turoboyski, I., Proba wplywu wysokich dawek okreslenia niektorych narybek karpia chemicznych na zwiazkow (attemp to determine the influence of high doses of some ...). Roczn. Nauk roln. 75B (3) 401-445 (1960).

LC50 Fish Gambusia 83d, affinis 740mg/L, Wallen, I.E., Greer, W.C., Lasater, r., Toxicity to gambusia affinis also of certain chemicals in turbid waters. Sewage IND. wastes 29 (6): 695-711, (1957).

EC50 Daphnia other: Culex SP. 600 mg/L 48, Dowden, B.F., Bennett, H.J., Toxicity of selected chemicals to certain animals. Journal WPCF, VOL. 37, 1308-1316 9 (1965).

EC50 Daphnia Daphnia magna 297mg/L 4 d FREEMAN I. FOWLER i. TOXICITY OF COMBINATIONS OF CERTAIN INORGANIC COMPOUNDS TO DAPHNIA MAGNA STRAUS. SEWAGE IND. WASTES 1953 V25 N10 P1191-1195 (USED REF 8267)

Algae EC50 Nitzschia SP. 242mg/L 5 d, Patrick, r., Cairns, JR.J., Schreier, a., The relative sensitivity of diatoms, snails and fish to twenty common constituents of industrial wastes. Prog. Fish-cult. 30 (3) 137-140 (1968).

C(E)L50 (mg/l) = 200

disodium carbonate—hydrogen peroxide (2:3):

Specification: EC50 Daphnia pulex Daphnia: Parametro value = 4.9 mg/l. test: 48 h

Specification: EC50: Alga anabaena Parametro

Value = 8 mg/l. test: 140 h

Specification: Parametro: Fish LC50

Pimephales promelas value = 70.7 mg/l. test: 96 h

Specification: NOEL Parametro: Fish

Pimephales promelas value = 7.4 mg/l. test: 96 h

Specification: NOEL Parametro: Daphnia

Daphnia pulex value = 2 mg/l. test: 48 h

C(E)L50 (mg/l) = 4,9

Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts:

LC50/48 h 1-10 mg/l (Daphnia magna)

EC50/96 h 10-100 mg/l (Pseudokircheneriella subcapitata)

LC50/96 h 1-10 mg/l (Iepomis macrochirus fisch)

NOEC 0.268 mg/l (-)

C(E)L50 (mg/l) = 1

sodium silicate:

96 Hr LC50 Iepomismacrochirus: 301-478 mg/L;

96 Hr LC50 Brachydanio rerio: 3185 mg/L [semi-static];

96 Hr. EC50 Daphnia magna 216 mg/l.

C(E)L50 (mg/l) = 216

Alcohols, C12-15, ethoxylated (7 mol EO average molar ratio):

Algae EC50: 10-100 mg/l 72 hours

EC50 Daphnia: 5-10 mg/l 48 hours

LC50 Fish: 5-10 mg/l 96 hour  
C(E)L50 (mg/l) = 5

C(E)L50 (mg/l) = 0,586

Use according to good working practices to avoid pollution into the environment.

### **12.2. Persistence and degradability**

Related to contained substances:  
disodium carbonate—hydrogen peroxide (2:3):  
Abiotic demolition  
The product can be cleared by abiotic processes, e.g. photolytic or chemical.

Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts:  
Easily biodegradable  
Other information:  
value: 90% &gt; sources: OECD 303A  
value 60 &gt;  
OECD 301B; ISO 9439.92/69/EEC, c. 4-C  
28 day (s)

Subtilisin:  
Rapidly biodegradable (OECD TG 301B)

### **12.3. Bioaccumulative potential**

Related to contained substances:  
disodium carbonate—hydrogen peroxide (2:3):  
Do not bio-accumulate.

Subtilisin:  
Do not bio-accumulate

### **12.4. Mobility in soil**

No data available.

### **12.5. Results of PBT and vPvB assessment**

It Contains :  
perfume - Authorisation number: pRO

### **12.6. Other adverse effects**

No adverse effects

## **SECTION 13. Disposal considerations**

### **13.1. Waste treatment methods**

Do not reuse empty containers. Dispose of them in accordance with the regulations in force. Any remaining product should be disposed of according to applicable regulations by addressing to authorized companies.

Recover if possible. Operate according to local or national regulations

## **SECTION 14. Transport information**

### **14.1. UN number**

Not included in the scope of application regulations concerning the transport of dangerous goods: by road (ADR); by rail (RID); by air (ICAO / IATA); by sea (IMDG).

### **14.2. UN proper shipping name**

None

### **14.3. Transport hazard class(es)**

None

### **14.4. Packing group**

None

### **14.5. Environmental hazards**

None

### **14.6. Special precautions for user**

No data available.

### **14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

It is not intended to carry bulk

## **SECTION 15. Regulatory information**

### **15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

No data available.

### **15.2. Chemical safety assessment**

The supplier has made an assessment of chemical safety

## **SECTION 16. Other information**

### **16.1. Other information**

Description of the hazard statements exposed to point 3

H319 = Causes serious eye irritation.

H272 = May intensify fire; oxidiser.

H302 = Harmful if swallowed.

H318 = Causes serious eye damage.

H315 = Causes skin irritation.

H400 = Very toxic to aquatic life.

H317 = May cause an allergic skin reaction.

H411 = Toxic to aquatic life with long lasting effects.

H334 = May cause allergy or asthma symptoms or breathing difficulties if inhaled

H335 = May cause respiratory irritation.

Classification based on data of all mixture components

Main normative references:

Directive 1999/45/EC

Directive 2001/60/EC

Regulation 1272/2008/EC

Regulation 2010/453/EC

\*\* The information contained herein is based on our knowledge at the date above.

Related solely to the product and do not constitute a guarantee of a particular quality.

It is the duty of the user to ensure that these are appropriate and complete information regarding the specific use intended.

This data sheet cancels and replaces any previous edition.

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