



SAFETY DATA SHEET

(REACH regulation (EC) n° 1907/2006 - n° 2015/830)

SECTION 1 : IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name : MINERALISANT TS

Product code : MTS.

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

Mineralizing.

1.3. Details of the supplier of the safety data sheet

Registered company name : HYDRO-MINERAL.

Address : ZA des Sablonnières.79270.EPANNES.France.

Telephone : +33 (0)5 49 05 87 14. Fax : +33 (0)5 49 05 92 16.

Email : contact@hydro-mineral.com

<http://www.hydro-mineral.com>

1.4. Emergency telephone number : +33 (0)1 45 42 59 59.

Association/Organisation : INRS / ORFILA <http://www.centres-antipoison.net>.

SECTION 2 : HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

In compliance with EC regulation No. 1272/2008 and its amendments.

Flammable liquid, Category 3 (Flam. Liq. 3, H226).

Acute inhalation toxicity, Category 4 (Acute Tox. 4, H332).

Eye irritation, Category 2 (Eye Irrit. 2, H319).

Specific target organ toxicity (single exposure), Category 3 (STOT SE 3, H335).

This mixture does not present an environmental hazard. No known or foreseeable environmental damage under standard conditions of use.

2.2. Label elements

In compliance with EC regulation No. 1272/2008 and its amendments.

Hazard pictograms :



GHS07

GHS02

Signal Word :

WARNING

Product identifiers :

EC 201-083-8

TETRAETHYL SILICATE

Hazard statements :

H226

Flammable liquid and vapour.

H319

Causes serious eye irritation.

H332

Harmful if inhaled.

H335

May cause respiratory irritation.

Precautionary statements - Prevention :

P210

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P261

Avoid breathing dust/fume/gas/mist/vapours/spray.

P264

Wash hands thoroughly after handling.

P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
Precautionary statements - Response :	
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER/doctor/if you feel unwell.
P337 + P313	If eye irritation persists: Get medical advice/attention.
Precautionary statements - Storage :	
P403 + P235	Store in a well-ventilated place. Keep cool.
Precautionary statements - Disposal :	
P501	Dispose of contents/container at a disposal facility in accordance with local regulations.

2.3. Other hazards

The mixture does not contain substances classified as 'Substances of Very High Concern' (SVHC) $\geq 0.1\%$ published by the European Chemicals Agency (ECHA) under article 57 of REACH: <http://echa.europa.eu/fr/candidate-list-table>

The mixture fulfils neither the PBT nor the vPvB criteria for mixtures in accordance with annexe XIII of the REACH regulations EC 1907/2006.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Composition :

Identification	(EC) 1272/2008	Note	%
CAS: 78-10-4 EC: 201-083-8 REACH: 01-2119496195-28 TETRAETHYL SILICATE	GHS07, GHS02 Wng Flam. Liq. 3, H226 Eye Irrit. 2, H319 Acute Tox. 4, H332 STOT SE 3, H335	[1]	50 \leq x % < 98
CAS: 64-17-5 EC: 200-578-6 REACH: 01-2119457610-43 ETHANOL	GHS02 Dgr Flam. Liq. 2, H225	[1]	1 \leq x % < 2

Information on ingredients :

[1] Substance for which maximum workplace exposure limits are available.

SECTION 4 : FIRST AID MEASURES

As a general rule, in case of doubt or if symptoms persist, always call a doctor.

NEVER induce swallowing by an unconscious person.

4.1. Description of first aid measures

In the event of exposure by inhalation :

In the event of massive inhalation, remove the person exposed to fresh air. Keep warm and at rest.

If the person is unconscious, place in recovery position. Notify a doctor in all events, to ascertain whether observation and supportive hospital care will be necessary.

If breathing is irregular or has stopped, effect mouth-to-mouth resuscitation and call a doctor.

Do not proceed with mouth-to-mouth or mouth-to-nose resuscitation. Use the appropriate equipment.

In the event of splashes or contact with eyes :

Wash thoroughly with fresh, clean water for 15 minutes holding the eyelids open.

If there is any redness, pain or visual impairment, consult an ophthalmologist.

In the event of splashes or contact with skin :

Remove contaminated clothing and wash the skin thoroughly with soap and water or a recognised cleaner.

In the event of swallowing :

Seek medical attention, showing the label.

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

No data available.

SECTION 5 : FIREFIGHTING MEASURES

Flammable.

Chemical powders, carbon dioxide and other extinguishing gas are suitable for small fires.

5.1. Extinguishing media

Keep packages near the fire cool, to prevent pressurised containers from bursting.

Suitable methods of extinction

In the event of a fire, use :

- sprayed water or water mist
- foam
- carbon dioxide (CO₂)
- powder

Prevent the effluent of fire-fighting measures from entering drains or waterways.

Unsuitable methods of extinction

In the event of a fire, do not use :

- water jet

5.2. Special hazards arising from the substance or mixture

A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health.

Do not breathe in smoke.

In the event of a fire, the following may be formed :

- carbon monoxide (CO)
- carbon dioxide (CO₂)
- silicon oxide
- formaldehyde

5.3. Advice for firefighters

Due to the toxicity of the gas emitted on thermal decomposition of the products, fire-fighting personnel are to be equipped with autonomous insulating breathing apparatus.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Consult the safety measures listed under headings 7 and 8.

For non first aid worker

Avoid inhaling the vapors.

Avoid any contact with the skin and eyes.

If a large quantity has been spilt, evacuate all personnel and only allow intervention by trained operators equipped with safety apparatus.

For first aid worker

First aid workers will be equipped with suitable personal protective equipment (See section 8).

6.2. Environmental precautions

Contain and control the leaks or spills with non-combustible absorbent materials such as sand, earth, vermiculite, diatomaceous earth in drums for waste disposal.

Prevent any material from entering drains or waterways.

6.3. Methods and material for containment and cleaning up

Clean preferably with a detergent, do not use solvents.

6.4. Reference to other sections

No data available.

SECTION 7 : HANDLING AND STORAGE

Requirements relating to storage premises apply to all facilities where the mixture is handled.

7.1. Precautions for safe handling

Always wash hands after handling.

Remove and wash contaminated clothing before re-using.

Fire prevention :

Handle in well-ventilated areas.

Prevent the formation of flammable or explosive concentrations in air and avoid vapor concentrations higher than the occupational exposure limits.

Prevent the accumulation of electrostatic charges with connections to earth.

The mixture can become electrostatically charged : always earth during decanting operations. Wear antistatic shoes and clothing and floors

should be electrically conductive.

Use the mixture in premises free of naked flames or other sources of ignition and ensure that electrical equipment is suitably protected.

Keep packages tightly closed and away from sources of heat, sparks and naked flames.

Do not use tools which may produce sparks. Do not smoke.

Prevent access by unauthorised personnel.

Recommended equipment and procedures :

For personal protection, see section 8.

Observe precautions stated on label and also industrial safety regulations.

Avoid inhaling vapors.

Avoid inhaling vapors. Carry out any industrial operation which may give rise to this in a sealed apparatus.

Provide vapor extraction at the emission source and also general ventilation of the premises.

Also provide breathing apparatus for certain short tasks of an exceptional nature and for emergency interventions.

In all cases, recover emissions at source.

Avoid eye contact with this mixture.

Prohibited equipment and procedures :

No smoking, eating or drinking in areas where the mixture is used.

7.2. Conditions for safe storage, including any incompatibilities

No data available.

Storage

Keep the container tightly closed in a dry, well-ventilated place.

Keep away from all sources of ignition - do not smoke.

Keep well away from all sources of ignition, heat and direct sunlight.

Avoid accumulation of electrostatic charges.

Packaging

Always keep in packaging made of an identical material to the original.

7.3. Specific end use(s)

No data available.

SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational exposure limits :

- European Union (2017/164/UE, 2009/161/UE, 2006/15/CE, 2000/39/CE, 98/24/CE)

CAS	VME-mg/m3 :	VME-ppm :	VLE-mg/m3 :	VLE-ppm :	Notes :
78-10-4	44	5	-	-	-

- ACGIH TLV (American Conference of Governmental Industrial Hygienists, Threshold Limit Values, 2010) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
78-10-4	10 ppm				
64-17-5		1000 ppm		A3	

- Germany - AGW (BAuA - TRGS 900, 21/06/2010) :

CAS	VME :	VME :	Excess	Notes
78-10-4		1,4 ppm 12 mg/m3		1()
64-17-5		500 ppm 960 mg/m3		2(II)

- Belgium (Order of 19/05/2009, 2010) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
78-10-4	10 ppm 86 mg/m3				
64-17-5	1000 ppm 1907 mg/m3				

- France (INRS - ED984 :2012) :

CAS	VME-ppm :	VME-mg/m3 :	VLE-ppm :	VLE-mg/m3 :	Notes :	TMP No :
78-10-4	10	85	-	-	-	-
64-17-5	1000	1900	5000	9500	-	84

- Switzerland (SUVA 2015) :

CAS	VME	VLE	Valeur plafond	Notations
78-10-4	10 ppm 85 mg/m3	10 ppm 85 mg/m3		
64-17-5	500 ppm 960 mg/m3	1000 ppm 1920 mg/m3		SSC

- UK / WEL (Workplace exposure limits, EH40/2005, 2007) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
64-17-5	1000 ppm 1920 mg/m3				

Derived no effect level (DNEL) or derived minimum effect level (DMEL):

ETHANOL (CAS: 64-17-5)

Final use:

Exposure method:

Potential health effects:

DNEL :

Exposure method:

Potential health effects:

DNEL :

Exposure method:

Potential health effects:

DNEL :

Final use:

Exposure method:

Potential health effects:

DNEL :

Exposure method:

Potential health effects:

DNEL :

Exposure method:

Potential health effects:

DNEL :

Exposure method:

Potential health effects:

DNEL :

TETRAETHYL SILICATE (CAS: 78-10-4)

Final use:

Exposure method:

Potential health effects:

DNEL :

Exposure method:

Potential health effects:

DNEL :

Exposure method:

Potential health effects:

DNEL :

Exposure method:

Potential health effects:

DNEL :

Exposure method:

Potential health effects:

DNEL :

Final use:

Exposure method:

Potential health effects:

DNEL :

Exposure method:

Workers.

Dermal contact.

Long term systemic effects.

343 mg/kg body weight/day

Inhalation.

Short term local effects.

1900 mg of substance/m3

Inhalation.

Long term systemic effects.

950 mg of substance/m3

Consumers.

Ingestion.

Long term systemic effects.

87 mg/kg body weight/day

Dermal contact.

Long term systemic effects.

206 mg/kg body weight/day

Inhalation.

Long term systemic effects.

950 mg of substance/m3

Inhalation.

Long term systemic effects.

114 mg of substance/m3

Workers.

Dermal contact.

Short term systemic effects.

12.1 mg/kg body weight/day

Dermal contact.

Long term systemic effects.

12.1 mg/kg body weight/day

Inhalation.

Short term systemic effects.

85 mg of substance/m3

Inhalation.

Long term systemic effects.

85 mg of substance/m3

Inhalation.

Long term local effects.

85 mg of substance/m3

Consumers.

Dermal contact.

Short term systemic effects.

8.4 mg/kg body weight/day

Dermal contact.

Potential health effects:	Long term systemic effects.
DNEL :	8.4 mg/kg body weight/day
Exposure method:	Inhalation.
Potential health effects:	Short term systemic effects.
DNEL :	25 mg of substance/m3
Exposure method:	Inhalation.
Potential health effects:	Short term local effects.
DNEL :	25 mg of substance/m3
Exposure method:	Inhalation.
Potential health effects:	Long term systemic effects.
DNEL :	25 mg of substance/m3
Exposure method:	Inhalation.
Potential health effects:	Long term local effects.
DNEL :	25 mg of substance/m3

Predicted no effect concentration (PNEC):

ETHANOL (CAS: 64-17-5)

Environmental compartment:	Soil.
PNEC :	0.63 mg/kg
Environmental compartment:	Fresh water.
PNEC :	0.96 mg/l
Environmental compartment:	Sea water.
PNEC :	0.79 mg/l
Environmental compartment:	Intermittent waste water.
PNEC :	2.75 mg/l
Environmental compartment:	Fresh water sediment.
PNEC :	3.6 mg/kg
Environmental compartment:	Marine sediment.
PNEC :	2.9 mg/kg
Environmental compartment:	Waste water treatment plant.
PNEC :	580 mg/l

TETRAETHYL SILICATE (CAS: 78-10-4)

Environmental compartment:	Soil.
PNEC :	0.05 mg/kg
Environmental compartment:	Fresh water.
PNEC :	0.192 mg/l
Environmental compartment:	Sea water.
PNEC :	0.0192 mg/l
Environmental compartment:	Intermittent waste water.
PNEC :	10 mg/l
Environmental compartment:	Fresh water sediment.
PNEC :	0.18 mg/kg
Environmental compartment:	Marine sediment.
PNEC :	0.018 mg/kg
Environmental compartment:	Waste water treatment plant.
PNEC :	4000 mg/l

8.2. Exposure controls

Personal protection measures, such as personal protective equipment

Pictogram(s) indicating the obligation of wearing personal protective equipment (PPE) :



Use personal protective equipment that is clean and has been properly maintained.

Store personal protective equipment in a clean place, away from the work area.

Never eat, drink or smoke during use. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas.

- Eye / face protection

Avoid contact with eyes.

Use eye protectors designed to protect against liquid splashes

Before handling, wear safety goggles with protective sides accordance with standard EN166.

In the event of high danger, protect the face with a face shield.

Prescription glasses are not considered as protection.

Individuals wearing contact lenses should wear prescription glasses during work where they may be exposed to irritant vapours.

Provide eyewash stations in facilities where the product is handled constantly.

- Hand protection

Use suitable protective gloves that are resistant to chemical agents in accordance with standard EN374.

Gloves must be selected according to the application and duration of use at the workstation.

Protective gloves need to be selected according to their suitability for the workstation in question : other chemical products that may be handled, necessary physical protections (cutting, pricking, heat protection), level of dexterity required.

Recommended properties :

- Impervious gloves in accordance with standard EN374

- Body protection

Work clothing worn by personnel shall be laundered regularly.

After contact with the product, all parts of the body that have been soiled must be washed.

- Respiratory protection

Avoid breathing vapours.

If the ventilation is insufficient, wear appropriate breathing apparatus.

When workers are confronted with concentrations that are above occupational exposure limits, they must wear a suitable, approved, respiratory protection device.

Anti-gas and vapour filter(s) (Combined filters) in accordance with standard EN14387 :

- A1 (Brown)

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

General information :

Physical state :	Fluid liquid.
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Important health, safety and environmental information

pH :	Not relevant.
Flash Point Interval :	23°C <= FP <= 55°C
Vapour pressure (50°C) :	Below 110 kPa (1.10 bar).
Density :	< 1
Water solubility :	Insoluble.

9.2. Other information

No data available.

SECTION 10 : STABILITY AND REACTIVITY

10.1. Reactivity

No data available.

10.2. Chemical stability

This mixture is stable under the recommended handling and storage conditions in section 7.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

Any apparatus likely to produce a flame or to have a metallic surface at high temperature (burners, electric arcs, furnaces etc.) must not be allowed on the premises.

Avoid :

- accumulation of electrostatic charges.
- heating
- heat
- flames and hot surfaces

10.5. Incompatible materials

Keep away from :

- oxidising agents
- water

10.6. Hazardous decomposition products

The thermal decomposition may release/form :

- carbon monoxide (CO)
- carbon dioxide (CO₂)
- silicon oxide
- formaldehyde

SECTION 11 : TOXICOLOGICAL INFORMATION**11.1. Information on toxicological effects**

Harmful by inhalation.

May have reversible effects on the eyes, such as eye irritation which is totally reversible by the end of observation at 21 days.

Respiratory tract irritation may occur, together with symptoms such as coughing, choking and breathing difficulties.

11.1.1. Substances**Acute toxicity :**

ETHANOL (CAS: 64-17-5)

Oral route : LD50 > 5000 mg/kg
Species : Rat

Inhalation route (n/a) : LC50 = 124.7 mg/l
Species : Rat

TETRAETHYL SILICATE (CAS: 78-10-4)

Oral route : LD50 = 2500 mg/kg
Species : Rat

Dermal route : LD50 = 5878 mg/kg
Species : Rabbit

Inhalation route (n/a) : LC50 = 11 mg/l

11.1.2. Mixture

No toxicological data available for the mixture.

SECTION 12 : ECOLOGICAL INFORMATION**12.1. Toxicity****12.1.1. Substances**

ETHANOL (CAS: 64-17-5)

Fish toxicity : LC50 > 1000 mg/l
Species : Pimephales promelas
Duration of exposure : 96 h

Crustacean toxicity : EC50 = 1000 mg/l
Species : Daphnia magna
Duration of exposure : 48 h

NOEC = 9.6 mg/l
Species : Daphnia magna

Algae toxicity :	ECr50 = 275 mg/l Species : Chlorella vulgaris Duration of exposure : 72 h
TETRAETHYL SILICATE (CAS: 78-10-4) Fish toxicity :	LC50 > 245 mg/l Species : Danio rerio Duration of exposure : 96 h Other guideline
Crustacean toxicity :	EC50 > 75 mg/l Species : Daphnia magna Duration of exposure : 48 h OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Algae toxicity :	ECr50 > 100 mg/l Species : Pseudokirchnerella subcapitata Duration of exposure : 72 h OECD Guideline 201 (Alga, Growth Inhibition Test)

12.1.2. Mixtures

No aquatic toxicity data available for the mixture.

12.2. Persistence and degradability

12.2.1. Substances

ETHANOL (CAS: 64-17-5)

Biodegradability : Rapidly degradable.

TETRAETHYL SILICATE (CAS: 78-10-4)

Biodegradability : Rapidly degradable.

12.3. Bioaccumulative potential

12.3.1. Substances

ETHANOL (CAS: 64-17-5)

Octanol/water partition coefficient : log K_{ow} = -0.35

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

No data available.

12.6. Other adverse effects

No data available.

German regulations concerning the classification of hazards for water (WGK) :

WGK 1 (VwVwS vom 27/07/2005, KBws) : Slightly hazardous for water.

SECTION 13 : DISPOSAL CONSIDERATIONS

Proper waste management of the mixture and/or its container must be determined in accordance with Directive 2008/98/EC.

13.1. Waste treatment methods

Do not pour into drains or waterways.

Waste :

Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals.

Recycle or dispose of waste in compliance with current legislation, preferably via a certified collector or company.

Do not contaminate the ground or water with waste, do not dispose of waste into the environment.

Soiled packaging :

Empty container completely. Keep label(s) on container.

Give to a certified disposal contractor.

SECTION 14 : TRANSPORT INFORMATION

Transport product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport (ADR 2017 - IMDG 2016 - ICAO/IATA 2017).

14.1. UN number

1993

14.2. UN proper shipping name

UN1993=FLAMMABLE LIQUID, N.O.S.
(ethanol, tetraethyl silicate)

14.3. Transport hazard class(es)

- Classification :



3

14.4. Packing group

III

14.5. Environmental hazards

-

14.6. Special precautions for user

ADR/RID	Class	Code	Pack gr.	Label	Ident.	LQ	Provis.	EQ	Cat.	Tunnel
	3	F1	III	3	30	5 L	274 601	E1	3	D/E
IMDG	Class	2°Label	Pack gr.	LQ	EMS	Provis.	EQ			
	3	-	III	5 L	F-E,S-E	223 274 955	E1			
IATA	Class	2°Label	Pack gr.	Passager	Passager	Cargo	Cargo	note	EQ	
	3	-	III	355	60 L	366	220 L	A3	E1	
	3	-	III	Y344	10 L	-	-	A3	E1	

For limited quantities, see part 2.7 of the OACI/IATA and chapter 3.4 of the ADR and IMDG.

For excepted quantities, see part 2.6 of the OACI/IATA and chapter 3.5 of the ADR and IMDG.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

No data available.

SECTION 15 : REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****- Classification and labelling information included in section 2:**

The following regulations have been used:

- EU Regulation No. 1272/2008 amended by EU Regulation No. 2016/1179. (ATP 9)

- Container information:

No data available.

- Particular provisions :

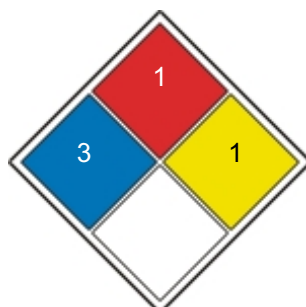
No data available.

- German regulations concerning the classification of hazards for water (WGK) :

WGK 1 (VwVwS vom 27/07/2005, KBws) : Slightly hazardous for water.

- Standardised American system for the identification of hazards presented by the product in view of emergency procedures (NFPA 704) :

NFPA 704, Labelling: Health=3 Inflammability=1 Instability/Reactivity=1 Specific Risk=none

**- Swiss ordinance on the incentive tax on volatile organic compounds :**

64-17-5

éthanol, seulement s'il s'agit d'alcools impropres à la consommation (art. 31 de
la loi fédérale sur l'alcool)**15.2. Chemical safety assessment**

No data available.

SECTION 16 : OTHER INFORMATION

Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations.

The mixture must not be used for other uses than those specified in section 1 without having first obtained written handling instructions.

It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.

The information in this safety data sheet must be regarded as a description of the safety requirements relating to the mixture and not as a guarantee of the properties thereof.

Wording of the phrases mentioned in section 3 :

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

Abbreviations :

DNEL : Derived No-Effect Level

PNEC : Predicted No-Effect Concentration

ADR : European agreement concerning the international carriage of dangerous goods by Road.

IMDG : International Maritime Dangerous Goods.

IATA : International Air Transport Association.

ICAO : International Civil Aviation Organisation

RID : Regulations concerning the International carriage of Dangerous goods by rail.

WGK : Wassergefahrdungsklasse (Water Hazard Class).

GHS02 : Flame

GHS07 : Exclamation mark

PBT: Persistent, bioaccumulable and toxic.

vPvB : Very persistent, very bioaccumulable.

SVHC : Substances of very high concern.