

TG Shield

Revision date: 04.07.2024

Product code: TG-003

Page 1 of 11

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product Identifier**

TG Shield

Further trade names

Article no: TG-ASH-050-RT

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

Special finishes

Uses advised against

Only use for the intended purpose.

1.3. Details of the supplier of the safety data sheet

Company name: Thermal Grizzly Holding GmbH

Street: Gewerbestraße 39

Place: D-16540 Hohen Neuendorf

Telephone: +49-40-53278850

Telefax: +49-321-21134793

E-mail: support@thermal-grizzly.com

Internet: http://thermal-grizzly.com/

1.4. Emergency number:

Emergency Action: In the event of a medical enquiry involving this product, please contact your doctor or local hospital accident and emergency department or the NHS enquiry service.

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No 1272/2008**

Hazard categories:

Flammable liquid: Flam. Liq. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Specific target organ toxicity - single exposure: STOT SE 3

Hazard Statements:

Highly flammable liquid and vapour.

Causes serious eye irritation.

May cause drowsiness or dizziness.

2.2. Label elements**Regulation (EC) No 1272/2008****Hazard components for labelling**

ethyl acetate

n-butyl acetate

propan-2-ol; isopropyl alcohol; isopropanol

Signal word:

Danger

Pictograms:**Warnings**

H225

Highly flammable liquid and vapour.

H319

Causes serious eye irritation.

H336

May cause drowsiness or dizziness.

TG Shield

Revision date: 04.07.2024

Product code: TG-003

Page 2 of 11

Precautionary statements

P102	Keep out of reach of children.
P103	Read carefully and follow all instructions.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
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.
P501	Dispose of contents/container according to regional/national regulations. Do not discard with household waste.

Specific labelling of certain mixtures

EUH066	Repeated exposure may cause skin dryness or cracking
--------	--

2.3. Other hazards

The components in this mixture do not meet the criteria for classification as PBT or vPvB.

SECTION 3: Composition/information on ingredients**3.1. Mixtures****Hazardous components**

CAS-No.	Chemical Name	Quantity in %		
	EC-No.	Index-No.	REACH-No.	
	GHS-Classification			
141-78-6	Ethylacetat			45-50
	205-500-4	607-022-00-5		
	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 EUH066			
123-86-4	n-Butylacetat			45-50
	204-658-1	607-025-00-1		
	Flam. Liq. 3, STOT SE 3; H226 H336 EUH066			
67-63-0	2-Propanol; Isopropylalkohol; Isopropanol			5-10
	200-661-7	603-117-00-0		
	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336			

Full text of H and EUH statements: see section 16.

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

First aider: Pay attention to self-protection!

Remove persons from danger area and lie them down. Never orally infuse something to an unconscious person. No special first aid measures necessary. A vomiting, supine person must be brought into recovery position.

After inhalation

Remove casualty to fresh air and keep warm and at rest. In case of doubt see doctor.

If unconscious place in recovery position and seek medical advice.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Change contaminated clothing. In case of skin irritation, consult a physician.

TG Shield

Revision date: 04.07.2024

Product code: TG-003

Page 3 of 11

After contact with eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

After ingestion

Rinse mouth, spit liquid again. Do NOT induce vomiting. Let water be drunken in little sips (dilution effect). Call a physician immediately.

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

Causes severe eye irritation in combination with intense redness and swelling of the conjunctiva. May cause drowsiness or dizziness.

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

Treat symptomatically.

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Carbon dioxide (CO₂). Extinguishing powder. Water spray. Fight larger fires with water spray jet or alcohol-resistant foam.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Heating causes rise in pressure with risk of bursting.

In case of fire may be liberated: Carbon monoxide. Carbon dioxide.

5.3. Advice for firefighters

Co-ordinate fire-fighting measures to the fire surroundings. Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information

Co-ordinate fire-fighting measures to the fire surroundings. Suppress gases/vapours/mists with water spray jet. Use water spray jet to protect personnel and to cool endangered containers. Contaminated fire-fighting water must be collected separately. Do not allow to enter into surface water or drains.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Provide adequate ventilation. Keep away from sources of ignition - No smoking.

Avoid contact with skin, eyes and clothes. Wear personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal. Clean contaminated articles and floor according to the environmental legislation.

6.4. Reference to other sections

Safe handling: see section 7

Personal precautions: refer to section 8

Disposal: see section 13

TG Shield

Revision date: 04.07.2024

Product code: TG-003

Page 4 of 11

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

Consider the usual precautions for handling chemicals. Ensure adequate ventilation. Avoid contact with skin, eyes and clothes. Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C. Do not pierce or burn, even after use. Do not spray on an open flame or other ignition source.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking.

Take precautionary measures against static discharges.

Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C. Do not pierce or burn, even after use.

Further information on handling

Use only antistatically equipped (spark-free) tools.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep container tightly closed. Keep only in the original container in a cool, well-ventilated place. Ensure adequate ventilation of the storage area.

Further information on storage conditions

Protect from sunlight and heat sources. Avoid ignition sources.

7.3. Specific end use(s)

Special cleaner for electronics

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
123-86-4	Butyl acetate	150	724		TWA (8 h)	WEL
		200	966		STEL (15 min)	WEL
141-78-6	Ethyl acetate	200	734		TWA (8 h)	WEL
		400	1468		STEL (15 min)	WEL
67-63-0	Propan-2-ol	400	999		TWA (8 h)	WEL
		500	1250		STEL (15 min)	WEL

TG Shield

Revision date: 04.07.2024

Product code: TG-003

Page 5 of 11

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
DNEL type				
141-78-6	ethyl acetate			
Consumer DNEL, long-term		dermal		37 mg/kg bw/day
Worker DNEL, long-term		dermal		63 mg/kg bw/day
Consumer DNEL, acute		inhalation		734 mg/m ³
Consumer DNEL, long-term		inhalation		367 mg/m ³
Worker DNEL, acute		inhalation		1468 mg/m ³
Worker DNEL, long-term		inhalation		734 mg/m ³
123-86-4		n-butyl acetate		
Consumer DNEL, acute		inhalation		859,7 mg/m ³
Consumer DNEL, long-term		inhalation		102,34 mg/m ³
Worker DNEL, acute		inhalation		960 mg/m ³
Worker DNEL, long-term		inhalation		480 mg/m ³

PNEC values

CAS No	Substance	Value
Environmental compartment		
141-78-6	ethyl acetate	
Freshwater		0,26 mg/l
Marine water		0,026 mg/l
Freshwater sediment		1,25 mg/l
Marine sediment		0,125 mg/l
Micro-organisms in sewage treatment plants (STP)		650 mg/l
123-86-4		n-butyl acetate
Freshwater		0,18 mg/l
Marine water		0,018 mg/l
Soil		0,0903 mg/kg
Marine sediment		0,0981 mg/kg
Freshwater sediment		0,981 mg/kg
Micro-organisms in sewage treatment plants (STP)		35,6 mg/l

8.2. Exposure controls**Protective and hygiene measures**

Change contaminated clothing. Wash hands before breaks and after work. When using do not eat or drink. Avoid skin, eye and clothing contact. After contact with skin, wash immediately with plenty of water and soap or a suitable cleaning agent.

Eye/face protection

Tightly fitting safety glasses with side shields.

Hand protection

Protect skin by using skin protective cream. Wear suitable gloves.

The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.

Skin protection

protection suit

Respiratory protection

Use protective filter mask in case of short-term and low exposure; in case of intense or longer exposure, use respiratory protection device operating independently from circulating air.

Recommended filtering device for short-term use: like: EN 14387, Filter type AX

TG Shield

Revision date: 04.07.2024

Product code: TG-003

Page 6 of 11

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	liquid
Colour:	colourless
Odour:	characteristic
pH:	not determined

Changes in the physical state

Melting point:	No data available
Initial boiling point and boiling range:	No data available
Flash point:	No data available

Flammability

Solid:	No data available
Gas:	No data available

Explosive properties

The product is not explosive, however, formation of explosive mixtures are possible.

Lower explosion limits:	No data available
Upper explosion limits:	No data available
Ignition temperature:	No data available

Autoignition temperature

Solid:	No data available
Gas:	No data available
Decomposition temperature:	No data available

Oxidizing properties

No data available	
Vapour pressure:	No data available
Density:	No data available
Water solubility:	No data available
Partition coefficient:	No data available
Viscosity / dynamic:	No data available
Viscosity / kinematic:	No data available
Vapour density:	not determined

9.2. Other information

No data available

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

Ignition hazard.

10.2. Chemical stability

The product is stable under regular conditions.

10.3. Possibility of hazardous reactions

In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.

10.4. Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.
moisture.

10.5. Incompatible materials

None known.

TG Shield

Revision date: 04.07.2024

Product code: TG-003

Page 7 of 11

10.6. Hazardous decomposition products

Thermal decomposition can lead to harmful gases and vapours. Hazardous decomposition products: Nitrogen oxides (NOx). Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information**11.1. Information on toxicological effects****Acute toxicity**

Based on the available data, the classification criteria are not met.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
141-78-6	ethyl acetate				
	oral	LD50 4100 mg/kg	Mouse.		
	dermal	LD50 >20000 mg/kg	Rabbit		
123-86-4	n-butyl acetate				
	oral	LD50 13100 mg/kg	Rat		
	dermal	LD50 >17600 mg/kg	Rabbit		
	inhalation (4 h) vapour	LC50 >21 mg/l	Rat		
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol				
	inhalation (4 h) vapour	LC50 73 mg/l	Ratte		

Irritation and corrosivity

Causes serious eye irritation.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Sensitising effects

Based on the available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

STOT-single exposure

May cause drowsiness or dizziness. (ethyl acetate; n-butyl acetate)

STOT-repeated exposure

Repeated exposure may cause skin dryness or cracking.

Aspiration hazard

Based on available data, the classification criteria are not met.

TG Shield

Revision date: 04.07.2024

Product code: TG-003

Page 8 of 11

SECTION 12: Ecological information

12.1. Toxicity

No data available.

CAS No	Chemical name	Dose	[h] [d]	Species	Source	Method
141-78-6	ethyl acetate					
	Acute fish toxicity	LC50 230 mg/l	96 h	Pimephales promelas		
	Acute crustacea toxicity	EC50 717 mg/l	48 h	Daphnia magna		
123-86-4	n-butyl acetate					
	Acute fish toxicity	LC50 62 mg/l	96 h	Leuciscus idus (golden orfe)		
	Acute algae toxicity	ErC50 674 mg/l	72 h	Scenedesmus subspicatus		

12.2. Persistence and degradability

No data available.

12.3. Bioaccumulation potential

No data available.

Partition coefficient n-octanol/water

CAS No.	Chemical name	Log Pow
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol	0,05

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

The components in this mixture do not meet the criteria for classification as PBT or vPvB..

12.6. Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods**Disposal recommendations**

Disposal according to official regulations.

Consult the local waste disposal expert about waste disposal. According to EAKV, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)**14.1 UN number:**

UN 1993

14.2 UN proper shipping name:FLAMMABLE LIQUID, N.O.S.
(ethyl acetate, propan-2-ol; isopropyl alcohol; isopropanol)**14.3 Transport hazard class(es):**

3

14.4 Packing group:

II

Hazard label:

3

TG Shield

Revision date: 04.07.2024

Product code: TG-003

Page 9 of 11



Classification code: F1
Special Provisions: 274 601 640D
Limited quantity: 1 L
Excepted quantity: E2
Transport category: 2
Hazard No: 33
Tunnel restriction code: D/E

Inland waterways transport (ADN)

14.1 UN number: UN 1993
14.2 UN proper shipping name: FLAMMABLE LIQUID, N.O.S.
(ethyl acetate, propan-2-ol; isopropyl alcohol; isopropanol)
14.3 Transport hazard class(es): 3
14.4 Packing group: II
Hazard label: 3



Classification code: F1
Special Provisions: 274 601 640D
Limited quantity: 1 L
Excepted quantity: E2

Marine transport (IMDG)

14.1 UN number: UN 1993
14.2 UN proper shipping name: FLAMMABLE LIQUID, N.O.S.
(ETYHL ACETATE, ISOPROPANOL)
14.3 Transport hazard class(es): 3
14.4 Packing group: II
Hazard label: 3



Special provisions: 274
Limited quantity: 1 L
Excepted quantity: E2
Ems: F-E, S-E

Air transport (ICAO-TI/IATA-DGR)

14.1 UN number: UN 1993
14.2 UN proper shipping name: FLAMMABLE LIQUID, N.O.S.
(ETYHL ACETATE, ISOPROPANOL)
14.3 Transport hazard class(es): 3
14.4 Packing group: II
Hazard labels: 3



Special Provisions: A3
Limited quantity Passenger: 1 L

TG Shield

Revision date: 04.07.2024

Product code: TG-003

Page 10 of 11

Passenger LQ:	Y341	
Excepted quantity:	E2	
IATA-packing instructions – Passenger:		353
IATA-max. quantity – Passenger:		5 L
IATA-packing instructions – Cargo:		364
IATA-max. quantity – Cargo:		60 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

No special precautions known.

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

not applicable

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information****Additional information**

Regulation (EC) No. 1005/2009 on substances that lead to the depletion of the ozone layer: not applicable

Regulation (EC) No. 648/2004 (Detergents regulation): not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants: not applicable

Regulation (EC) No 649/2012 of the European Parliament and of the Council concerning the export and import of dangerous chemicals: This mix contains no chemicals that are subject to the export notification procedures (annex 1).

This mixture contains the following substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH: none

This mixture contains the following substances of very high concern (SVHC) which are subject to authorisation according to Annex XIV of REACH: none

National regulatory information

Water hazard class (D): 1 - slightly hazardous to water

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information**Changes**

Version 1,00 - Creation - 27.07.2020

Version 1,01 - General update - 30.09.2020

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

BImSchV (Fed.Imm.Prot.Act): Directive on the Implementation of the Federal Immission Protection Act

CAS: Chemical Abstracts Service

EC: Effective Concentration

EG: European Community (Europäische Gemeinschaft)

EN: European Norm

IATA: International Air Transport Association

IBC Code: International Code for the Construction and Equipment of ships carrying Dangerous Chemicals in Bulk

ICAO: International Civil Aviation Organization

IMDG: International Maritime Code for Dangerous Goods

CLP: Classification, Labeling, Packaging

IUCLID: International Uniform Chemical Information Database

LC: Lethal concentration

TG Shield

Revision date: 04.07.2024

Product code: TG-003

Page 11 of 11

LD: Lethal dose
log Kow: Octanol/water partition coefficient
MARPOL: Maritime Pollution Convention = Convention for the Prevention of Maritime Pollution from Ships
OECD: Organisation for Economic Co-operation and Development
PBT: Persistent, bio-cumulative, toxic
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail
TRGS: Technische Regeln für Gefahrstoffe
VOC: Volatile Organic Compounds
vPvB: very persistent and very bio-cumulative
VwVwS: Administrative Regulation for Water Pollutants
WGK: German Water Hazard Class
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
DNEL: Derived No Effect Level
PNEC: Predicted No Effect Concentration
TLV: Threshold Limiting Value
STOT: Specific Target Organ Toxicity

Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

Classification	Classification procedure
Flam. Liq. 2; H225	On basis of test data
Eye Irrit. 2; H319	Calculation method
STOT SE 3; H336	Calculation method

Relevant H and EUH statements (number and full text)

H225 Highly flammable liquid and vapour.
H226 Flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
EUH066 Repeated exposure may cause skin dryness or cracking.

Further information

The information given in this safety data sheet is to describe the product's safety regulations. It is not for guaranteeing certain characteristics and is based on today's knowledge. The safety data sheet was generated upon information of pre-suppliers by:

asseso AG, Frohsinnstraße 28, 63739 Aschaffenburg, Germany
Phone: +49 (0)6021 - 1 50 86-0, Fax: +49 (0)6021 - 1 50 86-77, E-Mail: eu-sds@asseso.eu, www.asseso.eu

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)