

1 Identification

- **Product identifier**
- **Trade name:** BRIGHT GOLD GG 1539-11%
- **Article number:** 88003743
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture**
Decoration materials or decoration aids for glass or porcelain ware.
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Heraeus Precious Metals GmbH & Co. KG
Heraeusstr. 12-14
D-63450 Hanau
- **Information department:**
Electronic Materials Division
Telefon: 0049 6181-35 4217
Telefax: 0049 6181-35 16 4217
Mail: tfd-msds@heraeus.com
- **Emergency telephone number:**
24-h-Number:
0049 6132-84463

2 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** Chemical Mixture

· Dangerous components:		
8000-25-7	Rosemary oil	10-25%
7785-26-4	(-)-pin-2(3)-ene	5-10%
138-86-3	dipentene	2.5-5%
108-88-3	toluene	2.5-5%
84929-31-7	Lemon, ext.	2.5-5%
111-90-0	2-(2-ethoxyethoxy)ethanol	2.5-5%
75-09-2	dichlormethane	≤ 2.5%
91-17-8	Decahydronaphthalene	≤ 2.5%
514-10-3	abietic acid, technical	≤ 2.5%
8000-41-7	Terpineol	≤ 2.5%
64742-95-6	Solvent naphtha (petroleum), light arom.	≤ 2.5%
7704-34-9	sulfur	≤ 2.5%
104-55-2	Cinnamal	≤ 2.5%
8006-64-2	Turpentine, oil	≤ 2.5%
78-70-6	Linalool	≤ 2.5%
	Metal compound	≤ 2.5%
67874-71-9	Hexanoic acid, 2-ethyl-, bismuth(3+) salt	≤ 2.5%
68526-86-3	Alcohols, C11-14-iso-, C13-rich	≤ 1.0%
4180-23-8	(E)-anethole	≤ 1.0%
97-53-0	Eugenol	≤ 0.5%
106-24-1	Geraniol	≤ 0.5%
7580-31-6	2-ethylhexanoic acid, nickel salt	≤ 0.5%

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98-54-4 4-tert-butylphenol

≤ 0.5%

3 Hazard(s) identification

• **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 Health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Carc. 1A H350 May cause cancer.

Repr. 1B H360 May damage fertility or the unborn child.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

• **Label elements**

• **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

• **Hazard pictograms**



GHS02 GHS08

• **Signal word Danger**

• **Hazard-determining components of labeling:**

dipentene

toluene

dichlormethane

2-ethylhexanoic acid, nickel salt

• **Hazard statements**

H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

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

H317 May cause an allergic skin reaction.

H350 May cause cancer.

H360 May damage fertility or the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure.

• **Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

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- P241 Use explosion-proof electrical/ventilating/lighting/equipment.
 P303+P361+P353 *IF ON SKIN (or hair):* Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P305+P351+P338 *IF IN EYES:* Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P405 Store locked up.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 2
 Fire = 2
 Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = *2
 Fire = 2
 Reactivity = 0

4 First-aid measures

- **After inhalation:**
 Supply fresh air and to be sure call for a doctor.
 In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
 Immediately wash with water and soap and rinse thoroughly.
 Immediately rinse with water.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.

5 Fire-fighting measures

- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:**
 Water
 Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
 Mount respiratory protective device.
 Wear protective equipment. Keep unprotected persons away.
 Ensure adequate ventilation
 Wear protective clothing.
- **Environmental precautions:**
 Do not allow product to reach sewage system or any water course.
 Inform respective authorities in case of seepage into water course or sewage system.
 Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
 Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
 Dispose contaminated material as waste according to item 13.
 Ensure adequate ventilation.

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Do not flush with water or aqueous cleansing agents

• **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

• **Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

• **Information about protection against explosions and fires:**

Keep ignition sources away - Do not smoke.

Protect from heat.

Protect against electrostatic charges.

Keep respiratory protective device available.

• **Storage:**

• **Requirements to be met by storerooms and receptacles:** No special requirements.

• **Information about storage in one common storage facility:** Store away from foodstuffs.

• **Further information about storage conditions:**

Keep receptacle tightly sealed.

Protect from heat and direct sunlight.

Prevent from drying out.

• **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

• **Additional information about design of technical systems:** No further data; see item 7.

• **Components with limit values that require monitoring at the workplace:**

138-86-3 dipentene

WEEL () Long-term value: 30 ppm

108-88-3 toluene

PEL () Short-term value: C 300; 500* ppm
Long-term value: 200 ppm
*10-min peak per 8-hr shift

REL () Short-term value: 560 mg/m³, 150 ppm
Long-term value: 375 mg/m³, 100 ppm

TLV () Long-term value: 75 mg/m³, 20 ppm
BEI

111-90-0 2-(2-ethoxyethoxy)ethanol

WEEL () Long-term value: 25 ppm

75-09-2 dichlormethane

PEL () Short-term value: 125 ppm
Long-term value: 25 ppm
see 29 CFR 1910.1052

REL () See Pocket Guide App. A

TLV () Long-term value: 174 mg/m³, 50 ppm
BEI

8006-64-2 Turpentine, oil

PEL () Long-term value: 560 mg/m³, 100 ppm

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REL ()	Long-term value: 560 mg/m ³ , 100 ppm
TLV ()	Long-term value: 112 mg/m ³ , 20 ppm (SEN) NIC-DSEN
7580-31-6 2-ethylhexanoic acid, nickel salt	
PEL ()	Long-term value: 1 mg/m ³ as Ni
REL ()	Long-term value: 0.015 mg/m ³ as Ni; See Pocket Guide App. A
8052-41-3 Stoddard solvent	
PEL ()	Long-term value: 2900 mg/m ³ , 500 ppm
REL ()	Short-term value: C 1800* mg/m ³ Long-term value: 350 mg/m ³ *15-min
TLV ()	Long-term value: 525 mg/m ³ , 100 ppm

Ingredients with biological limit values:

108-88-3 toluene

BEI ()	0.02 mg/L Medium: blood Time: prior to last shift of workweek Parameter: Toluene
	0.03 mg/L Medium: urine Time: end of shift Parameter: Toluene
	0.3 mg/g creatinine Medium: urine Time: end of shift Parameter: o-Cresol with hydrolysis (background)

75-09-2 dichloromethane

BEI ()	0.3 mg/L Medium: urine Time: end of shift Parameter: Dichloromethane (semi-quantitative)
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• **Additional information:** The lists that were valid during the creation were used as basis.

• **Personal protective equipment:**

• **General protective and hygienic measures:**

- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing.
- Wash hands before breaks and at the end of work.
- Store protective clothing separately.
- Avoid contact with the skin.
- Avoid contact with the eyes and skin.

• **Breathing equipment:**

- Use suitable respiratory protective device in case of insufficient ventilation.
- Filter A2B2P3

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

• **Protection of hands:**



Protective gloves

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Only use chemical-protective gloves with CE-labeling of category III.

Check protective gloves prior to each use for their proper condition.

After use of gloves apply skin-cleaning agents and skin cosmetics.

• **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

For short use and minimal soiling we recommend disposable protective gloves made of special nitrile.

For longer use and stronger soiling we recommend 4H-Chemicals-Protective-Gloves from the company SETON.

• **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

• **Eye protection:**



Tightly sealed goggles

• **Body protection:** Protective work clothing

9 Physical and chemical properties

• **General Information**

• **Appearance:**

• Form:	Fluid
• Color:	Dark brown
• Odor:	Characteristic
• Odour threshold:	Not determined.

• **pH-value:** Not determined.

• **Change in condition**

• Melting point/Melting range:	Undetermined.
• Boiling point/Boiling range:	Undetermined.

• **Flash point:** 47 °C (117 °F) (DIN 13736)

• **Flammability (solid, gaseous):** Not applicable.

• **Ignition temperature:** 255 °C (491 °F)

• **Decomposition temperature:** Not determined.

• **Auto igniting:** Product is not selfigniting.

• **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

• **Explosion limits:**

• Lower:	Not determined.
• Upper:	Not determined.

• **Vapor pressure:** Not determined.

• **Density:** Not determined.

• **Relative density** Not determined.

• **Vapour density** Not determined.

• **Evaporation rate** Not determined.

• **Solubility in / Miscibility with**

• **Water:** Not miscible or difficult to mix.

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- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
 - Dynamic at 20 °C (68 °F):** 65 - 85 mPas
 - Kinematic:** Not determined.
- **Solvent content:**
 - Organic solvents:** 17.2 %
 - Water:** 0.0 %
- **Solids content:** 52.5 %
- **Other information** No further relevant information available.

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
(< 100 °C)
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

7785-26-4 (-)-pin-2(3)-ene

Oral	LD50	3700 mg/kg (rat)
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138-86-3 dipentene

Oral	LD50	5300 mg/kg (rat) (RTECS)
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Dermal	LD50	> 2000 mg/kg (kan)
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108-88-3 toluene

Oral	LD50	636 mg/kg (rat)
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Dermal	LD50	12124 mg/kg (rbt)
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Inhalative	LC50/4 h	28.1 mg/l (rat)
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111-90-0 2-(2-ethoxyethoxy)ethanol

Oral	LD50	5500 mg/kg (rat)
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Dermal	LD50	8500 mg/kg (rbt)
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75-09-2 dichlormethane

Oral	LD50	1600 mg/kg (rat)
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Inhalative	LC50/4 h	88 mg/l (rat)
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91-17-8 Decahydronaphthalene

Oral	LD50	4170 mg/kg (rat)
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Dermal	LD50	5900 mg/kg (rbt)
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Inhalative	LC50/1h	1.08 mg/l (rat)
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8000-41-7 Terpeneol

Oral	LD50	4300 mg/kg (rat)
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Dermal	LD50	> 5000 mg/kg (rabbit)
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64742-95-6 Solvent naphtha (petroleum), light arom.

Oral	LD50	> 5000 mg/kg (rat)
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Dermal	LD50	> 3160 mg/kg (rabbit)
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Inhalative	LC50/4 h	> 5.2 mg/l (rat)
104-55-2 Cinnamal		
Oral	LD50	2220 mg/kg (rat)
8006-64-2 Turpentine, oil		
Oral	LD50	5760 mg/kg (rat)
78-70-6 Linalool		
Oral	LD50	2790 mg/kg (rat)
Dermal	LD50	5610 mg/kg (rbt)
97-53-0 Eugenol		
Oral	LD50	2680 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**

• **Carcinogenic categories**

• IARC (International Agency for Research on Cancer)		
108-88-3	toluene	3
75-09-2	dichlormethane	2B
97-53-0	Eugenol	3
7580-31-6	2-ethylhexanoic acid, nickel salt	1
50-00-0	Methanal	1

• **NTP (National Toxicology Program)**

75-09-2	dichlormethane	R
93-15-2	4-allylveratrole	R
50-00-0	Methanal	R

12 Ecological information

• **Aquatic toxicity:**

138-86-3 dipentene	
EC50/48h	17 mg/l (daphnia) (ECOTOX Database)
LC50/96h	80 mg/l (fish) (Regenbogenforelle, ECOTOX Database)
108-88-3 toluene	
EC50/30min	20 mg/l (bak)
EC50/48h	6 mg/l (daphnia)
IC50/72h	12 mg/l (algae)
LC50/96h	5.8 mg/l (fish)
64742-95-6 Solvent naphtha (petroleum),light arom.	
EC50/96h	19 mg/l (algae)
LC50/48h	6.14 mg/l (daphnia)
LC50/96h	9.22 mg/l (fish)
8006-64-2 Turpentine, oil	
EC50	14.1 mg/l (daphnia)
97-53-0 Eugenol	
EC50/48h	1.05 mg/l (daphnia)

- **Persistence and degradability** No further relevant information available.
- **Bioaccumulative potential** No further relevant information available.

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- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
*Water hazard class 2 (in accordance with VwVwS from 15.05.1999): hazardous for water
 Do not allow product to reach ground water, water course or sewage system.
 Danger to drinking water if even small quantities leak into the ground.
 Also poisonous for fish and plankton in water bodies.
 Toxic for aquatic organisms*

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
*Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
 Contact manufacturer for recycling information.*
- **Uncleaned packagings:**
- **Recommendation:** Contact manufacturer for recycling information.

14 Transport information

• UN-Number	
• DOT, ADR, IMDG, IATA	UN1263
• UN proper shipping name	
• DOT	Paint
• ADR	1263 Paint, special provision 640E, ENVIRONMENTALLY HAZARDOUS
• IMDG	PAINT (Rosemary oil, alpha-PINENE), MARINE POLLUTANT
• IATA	PAINT
• Transport hazard class(es)	
• DOT	
	
• Class	3 Flammable liquids.
• Label	3
• ADR, IMDG	
 	
• Class	3 Flammable liquids
• Label	3
• IATA	
	
• Class	3 Flammable liquids.
• Label	3

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· Packing group	III
· DOT, ADR, IMDG, IATA	III
· Environmental hazards:	Product contains environmentally hazardous substances: dipentene
· Marine pollutant:	Yes
· Special marking (ADR):	Symbol (fish and tree)
· Special precautions for user	Warning: Flammable liquids
· Danger code (Kemler):	30
· EMS Number:	F-E,S-E
· Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.
· UN "Model Regulation":	UN1263, Paint, special provision 640E, ENVIRONMENTALLY HAZARDOUS, 3, III

15 Regulatory information

· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredient is listed.

· **Section 313 (Specific toxic chemical listings):**

108-88-3 toluene

75-09-2 dichlormethane

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

75-09-2 dichlormethane

· **Chemicals known to cause reproductive toxicity for females:**

108-88-3 toluene

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

108-88-3 toluene

149-57-5 2-ethylhexanoic acid

· **Carcinogeny categories**

· **EPA (Environmental Protection Agency)**

108-88-3 toluene

II

75-09-2 dichlormethane

B2

50-00-0 Methanal

B1

· **TLV (Threshold Limit Value established by ACGIH)**

108-88-3 toluene

A4

75-09-2 dichlormethane

A3

76-22-2 bornan-2-one

A4

50-00-0 Methanal

A2

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· NIOSH-Ca (National Institute for Occupational Safety and Health)	
75-09-2	dichlormethane
50-00-0	Methanal
· OSHA-Ca (Occupational Safety & Health Administration)	
75-09-2	dichlormethane
50-00-0	Methanal

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS02 GHS08

· **Signal word** *Danger*

· **Hazard-determining components of labeling:**

dipentene
toluene
dichlormethane
2-ethylhexanoic acid, nickel salt

· **Hazard statements**

H226 Flammable liquid and vapour.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H350 May cause cancer.
H360 May damage fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read label before use.
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Information about limitation of use:**

Employment restrictions concerning young persons must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing MSDS:** TFD-MSDS

· **Contact:** Mr. Hesse

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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)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

(calc.): calculated

- * Data compared to the previous version altered.**

USA