

## 1 Identification

- **Product identifier**
- **Trade name:** *N 651 LUSTRE ORANGE*
- **Article number:** 88030101
- **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:**

75-09-2	dichlormethane	10-25%
98-55-5	p-menth-1-en-8-ol	10-25%
8006-64-2	Turpentine, oil	10-25%
514-10-3	abietic acid, technical	10-25%
19383-54-1	Hexanoic acid, 2-ethyl-, iron salt	5-10%
91-17-8	Decahydronaphthalene	5-10%
64742-48-9	Naphtha (petroleum), hydrotreated heavy	2.5-5%
67874-71-9	Hexanoic acid, 2-ethyl-, bismuth(3+) salt	2.5-5%
3302-10-1	nonanoic acid	2.5-5%
108-94-1	cyclohexanone	≤ 2.5%
586-62-9	Cyclohexene, 1-methyl-4-(1-methylethylidene)-	≤ 2.5%
1330-20-7	xylene	≤ 2.5%
138-86-3	dipentene	≤ 1.0%
7785-26-4	(-)-pin-2(3)-ene	≤ 0.5%

## 3 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 3 H226 Flammable liquid and vapour.

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**GHS08 Health hazard**

*Carc. 2 H351 Suspected of causing cancer.*  
*Repr. 2 H361 Suspected of damaging fertility or the unborn child.*  
*Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.*



**GHS05 Corrosion**

*Skin Corr. 1B H314 Causes severe skin burns and eye damage.*



**GHS07**

*Acute Tox. 4 H332 Harmful if inhaled.*  
*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



GHS05



GHS07



GHS08

**Signal word Danger**

**Hazard-determining components of labeling:**

Turpentine, oil  
 Decahydronaphthalene  
 dichlormethane  
 cyclohexanone

**Hazard statements**

*H226 Flammable liquid and vapour.*  
*H332 Harmful if inhaled.*  
*H314 Causes severe skin burns and eye damage.*  
*H317 May cause an allergic skin reaction.*  
*H351 Suspected of causing cancer.*  
*H361 Suspected of damaging fertility or the unborn child.*  
*H304 May be fatal if swallowed and enters airways.*

**Precautionary statements**

*P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.*  
*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.*  
*P310 Immediately call a POISON CENTER or doctor/physician.*  
*P405 Store locked up.*  
*P501 Dispose of contents/container in accordance with local/regional/national/international regulations.*

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



- HMIS-ratings (scale 0 - 4)



### 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.
- **After eye contact:**  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.

### 5 Fire-fighting measures

- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **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**  
Ensure adequate ventilation  
Wear protective clothing.
- **Environmental precautions:**  
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.
- **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.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.

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- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:**  
Keep receptacle tightly sealed.  
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:**

**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/m <sup>3</sup> , 50 ppm BEI

**8006-64-2 Turpentine, oil**

PEL ()	Long-term value: 560 mg/m <sup>3</sup> , 100 ppm
REL ()	Long-term value: 560 mg/m <sup>3</sup> , 100 ppm
TLV ()	Long-term value: 112 mg/m <sup>3</sup> , 20 ppm (SEN) NIC-DSEN

**108-94-1 cyclohexanone**

PEL ()	Long-term value: 200 mg/m <sup>3</sup> , 50 ppm
REL ()	Long-term value: 100 mg/m <sup>3</sup> , 25 ppm Skin
TLV ()	Long-term value: 50 mg/m <sup>3</sup> , 20 ppm Skin

**1330-20-7 xylene**

PEL ()	Long-term value: 435 mg/m <sup>3</sup> , 100 ppm
REL ()	Short-term value: 655 mg/m <sup>3</sup> , 150 ppm Long-term value: 435 mg/m <sup>3</sup> , 100 ppm
TLV ()	Short-term value: 651 mg/m <sup>3</sup> , 150 ppm Long-term value: 434 mg/m <sup>3</sup> , 100 ppm BEI

**138-86-3 dipentene**

WEEL ()	Long-term value: 30 ppm
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**Ingredients with biological limit values:**

**75-09-2 dichlormethane**

BEI ()	0.3 mg/L Medium: urine Time: end of shift Parameter: Dichloromethane (semi-quantitative)
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**108-94-1 cyclohexanone**

BEI () 80 mg/L

Medium: urine

Time: end of shift at end of workweek

Parameter: 1,2-Cyclohexanediol with hydrolysis (nonspecific, semi-quantitative)

8 mg/L

Medium: urine

Time: end of shift

Parameter: Cyclohexanol with hydrolysis (nonspecific, semi-quantitative)

**1330-20-7 xylene**

BEI () 1,5 g/g creatinine

Medium: urine

Time: end of shift

Parameter: Methylhippuric acids

- **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.

Avoid contact with the eyes and skin.

- **Breathing equipment:**

Use suitable respiratory protective device in case of insufficient ventilation.

Filter A2B2P3

- **Protection of hands:**



Protective gloves

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

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### 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: < 61 °C (< 142 °F)  
When the highly volatile and flame-retardant component dichloromethane has evaporated, the substance is inflammable.

Flammability (solid, gaseous): Not applicable.

Ignition temperature: 220 °C (428 °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:	0.8 Vol %
Upper:	22.0 Vol %

Vapor pressure at 20 °C (68 °F): 453 hPa (340 mm Hg)

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.

Partition coefficient (n-octanol/water): Not determined.

**Viscosity:**

Dynamic:	Not determined.
Kinematic:	Not determined.

**Solvent content:**

Organic solvents:	37.2 %
Water:	0.0 %

Solids content: 35.2 %

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.

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**Hazardous decomposition products:** No dangerous decomposition products known.

**11 Toxicological information**

**Acute toxicity:**

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

<b>75-09-2 dichlormethane</b>		
Oral	LD50	1600 mg/kg (rat)
Inhalative	LC50/4 h	88 mg/l (rat)
<b>98-55-5 p-menth-1-en-8-ol</b>		
Oral	LD50	4300 mg/kg (rat)
<b>8006-64-2 Turpentine, oil</b>		
Oral	LD50	5760 mg/kg (rat)
<b>91-17-8 Decahydronaphthalene</b>		
Oral	LD50	4170 mg/kg (rat)
Dermal	LD50	5900 mg/kg (rbt)
Inhalative	LC50/1h	1,08 mg/l (rat)
<b>64742-48-9 Naphtha (petroleum), hydrotreated heavy</b>		
Oral	LD50	>5000 mg/kg (rat)
Dermal	LD50	>3000 mg/kg (rabbit)
<b>3302-10-1 nonanoic acid</b>		
Oral	LD50	1160 mg/kg (rat)
<b>108-94-1 cyclohexanone</b>		
Oral	LD50	1900 mg/kg (rat)
Dermal	LD50	948 mg/kg (rabbit)
Inhalative	LC50/4 h	8000 mg/l (rat)
<b>586-62-9 Cyclohexene, 1-methyl-4-(1-methylethylidene)-</b>		
Oral	LD50	4390 mg/kg (rat)
Dermal	LD50	>5000 mg/kg (rabbit)
<b>1330-20-7 xylene</b>		
Oral	LD50	4300 mg/kg (rat)
Dermal	LD50	2000 mg/kg (rvt)
<b>138-86-3 dipentene</b>		
Oral	LD50	5300 mg/kg (rat) (RTECS)
Dermal	LD50	> 2000 mg/kg (kan)
<b>7785-26-4 (-)-pin-2(3)-ene</b>		
Oral	LD50	3700 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**

<b>IARC (International Agency for Research on Cancer)</b>		
75-09-2	dichlormethane	2B
108-94-1	cyclohexanone	3
1330-20-7	xylene	3

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- NTP (National Toxicology Program)

75-09-2 dichloromethane

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### 12 Ecological information

- Aquatic toxicity:

**8006-64-2 Turpentine, oil**

EC50 14.1 mg/l (daphnia)

**3302-10-1 nonanoic acid**

LC50 100 -1000 mg/l (fish)

**108-94-1 cyclohexanone**

EC50/48h 820 mg/l (daphnia)

LC50/96h 527 mg/l (fish)

**138-86-3 dipentene**

EC50/48h 17 mg/l (daphnia) (ECOTOX Database)

LC50/96h 80 mg/l (fish) (Regenbogenforelle, ECOTOX Database)

- Persistence and degradability No further relevant information available.

- Bioaccumulative potential No further relevant information available.

- Ecotoxicological effects:

- Remark: Harmful to 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.

Harmful to 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: Disposal must be made according to official regulations.

### 14 Transport information

- UN-Number

- DOT, ADR, IMDG, IATA

UN2922

- UN proper shipping name

- DOT

- ADR

- IMDG, IATA

Corrosive liquids, toxic, n.o.s. (Dichloromethane, Turpentine)

2922 Corrosive liquids, toxic, n.o.s. (Dichloromethane,

Turpentine), ENVIRONMENTALLY HAZARDOUS

CORROSIVE LIQUID, TOXIC, N. O. S.



(DICHLOROMETHANE, TURPENTINE)

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· <b>Transport hazard class(es)</b>	
· <b>DOT</b>	
	
· <b>Class</b>	8 Corrosive substances.
· <b>Label</b>	8+6.1+3
· <b>ADR, IMDG, IATA</b>	
	
· <b>Class</b>	8 Corrosive substances
· <b>Label</b>	8+6.1+3
· <b>Packing group</b>	
· <b>DOT, ADR, IMDG, IATA</b>	II
· <b>Environmental hazards:</b>	
· <b>Marine pollutant:</b>	No
· <b>Special precautions for user</b>	
· <b>Danger code (Kemler):</b>	Warning: Corrosive substances
· <b>EMS Number:</b>	86
· <b>Segregation groups</b>	F-A,S-B Liquid halogenated hydrocarbons
· <b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	
	Not applicable.
· <b>UN "Model Regulation":</b>	
	UN2922, Corrosive liquids, toxic, n.o.s. (Dichloromethane, Turpentine), ENVIRONMENTALLY HAZARDOUS, 8 (6.1+3), II

**15 Regulatory information**

· <b>Sara</b>	
· <b>Section 355 (extremely hazardous substances):</b>	
None of the ingredient is listed.	
· <b>Section 313 (Specific toxic chemical listings):</b>	
75-09-2	dichlormethane
1330-20-7	xylene
· <b>TSCA (Toxic Substances Control Act):</b>	
All ingredients are listed.	
· <b>Proposition 65</b>	
· <b>Chemicals known to cause cancer:</b>	
75-09-2	dichlormethane
· <b>Chemicals known to cause reproductive toxicity for females:</b>	
None of the ingredients is listed.	
· <b>Chemicals known to cause reproductive toxicity for males:</b>	
None of the ingredients is listed.	

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**Chemicals known to cause developmental toxicity:**

149-57-5 2-ethylhexanoic acid

**Carcinogenicity categories**

**EPA (Environmental Protection Agency)**

75-09-2	dichlormethane	B2
1330-20-7	xylene	I

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

75-09-2	dichlormethane	A3
108-94-1	cyclohexanone	A3
1330-20-7	xylene	A4
76-22-2	bornan-2-one	A4

**NIOSH-Ca (National Institute for Occupational Safety and Health)**

75-09-2 dichlormethane

**OSHA-Ca (Occupational Safety & Health Administration)**

75-09-2 dichlormethane

**GHS label elements**

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

**Hazard pictograms**



GHS02 GHS05 GHS07 GHS08

**Signal word Danger**

**Hazard-determining components of labeling:**

Turpentine, oil  
Decahydronaphthalene  
dichlormethane  
cyclohexanone

**Hazard statements**

H226 Flammable liquid and vapour.  
H332 Harmful if inhaled.  
H314 Causes severe skin burns and eye damage.  
H317 May cause an allergic skin reaction.  
H351 Suspected of causing cancer.  
H361 Suspected of damaging fertility or the unborn child.  
H304 May be fatal if swallowed and enters airways.

**Precautionary statements**

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
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.  
P310 Immediately call a POISON CENTER or doctor/physician.  
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.

USA

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Printing date 01/07/2014

Version number 10

Reviewed on 01/07/2014

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**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

**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 Abstract Service (division of the American Chemical Society)*

*NFPA: National Fire Protection Association (USA)*

*HMTS: 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