

1 Identification

- **Product identifier**
 - *Product number* LGA6964
 - *Trade name:* **CLEAR PU TOPCOAT 20SH**
 - *Application of the substance / the mixture* For professional use
- **Details of the supplier of the safety data sheet**
 - *Manufacturer/Supplier:*
IVM Chemicals srl
Viale della Stazione 3 - 27020 Parona (PV) Italy tel +39 038425441
 - *Information department:*
Environmental Health and safety office
hseoffice@ivmchemicals.com
 - *Emergency telephone number:*
ChemTel Expert Assistance Hotline/SDS Fax Access by dialing 1-800-255-3924 or for International +1-813-248-0585.

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS08 Health hazard

Carc. 2 H351 Suspected of causing cancer.



GHS07

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

STOT SE 3 H336 May cause drowsiness or dizziness.

- **Label elements**

- *GHS label elements*

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

- *Hazard pictograms*



GHS02



GHS07



GHS08

- *Signal word* Danger

- *Hazard-determining components of labeling:*

n-butyl acetate

isobutyl acetate

E96096

- *Hazard statements*

H225 Highly flammable liquid and vapor.

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

H336 May cause drowsiness or dizziness.

Product number LGA6964

Trade name: CLEAR PU TOPCOAT 20SH

(Contd. of page 1)

· Precautionary statements

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): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P321 Specific treatment (see on this label).

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 = 0

Fire = 3

Reactivity = 0

· HMIS-ratings (scale 0 - 4)



Health = 0

Fire = 3

Reactivity = 0

3 Composition/information on ingredients

· Chemical characterization: Mixtures

· Description: Mixture: consisting of the following components.

· Dangerous components:

123-86-4	n-butyl acetate	25-29.9%
	Flam. Liq. 3, H226 STOT SE 3, H336	
110-19-0	isobutyl acetate	15-19.9%
	Flam. Liq. 2, H225 STOT SE 3, H336	
108-65-6	2-methoxy-1-methylethyl acetate	5-9.99%
	Flam. Liq. 3, H226	
64-17-5	ethanol	≥0.1-<0.5%
	Flam. Liq. 2, H225 Eye Irrit. 2A, H319	
	E96096	≥0.1-<0.5%
	Skin Sens. 1, H317 Aquatic Chronic 4, H413	
100-41-4	ethylbenzene	≥0.1-<0.5%
	Flam. Liq. 2, H225 Carc. 2, H351; STOT RE 2, H373; Asp. Tox. 1, H304 Acute Tox. 4, H332	

4 First-aid measures

· Description of first aid measures

· General information:

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

(Contd. on page 3)

Product number LGA6964

Trade name: CLEAR PU TOPCOAT 20SH

(Contd. of page 2)

personal protective equipment for first aid responders is recommended. (please see section 8)

· **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.

· **After swallowing:** Do not induce vomiting; immediately call for medical help.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed**

For symptoms and effects caused by substances, refer to Section 11.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:** Alcohol resistant foam, CO, powder, water spray/mist.

· **For safety reasons unsuitable extinguishing agents:**

Do not use a jet water stream as it may scatter and spread fire.

· **Special hazards arising from the substance or mixture**

Formation of toxic gases is possible during heating or in case of fire.

· **Advice for firefighters**

Cool by spraying with water the containers to prevent product decomposition and the development of substances potentially hazardous for health and also, in the case of closed containers exposed to flames to prevent explosions.

· **Protective equipment:**

Hardhat with visor, fireproof clothing, suitable gloves and if necessary respiratory protective device.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

· **Environmental precautions:** 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 Section 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.

· **Protective Action Criteria for Chemicals**

· **PAC-I:**

123-86-4	n-butyl acetate	5 ppm
110-19-0	isobutyl acetate	450 ppm
108-65-6	2-methoxy-1-methylethyl acetate	50 ppm
7631-86-9	silicon dioxide, chemically prepared	18 mg/m3
1330-20-7	xylene	130 ppm

(Contd. on page 4)

Product number LGA6964
Trade name: CLEAR PU TOPCOAT 20SH

(Contd. of page 3)

64-17-5	ethanol	1,800 ppm
141-78-6	ethyl acetate	1,200 ppm
100-41-4	ethylbenzene	33 ppm
· PAC-2:		
123-86-4	n-butyl acetate	200 ppm
110-19-0	isobutyl acetate	1300* ppm
108-65-6	2-methoxy-1-methylethyl acetate	1,000 ppm
7631-86-9	silicon dioxide, chemically prepared	740 mg/m3
1330-20-7	xylene	920* ppm
64-17-5	ethanol	3300* ppm
141-78-6	ethyl acetate	1,700 ppm
100-41-4	ethylbenzene	1100* ppm
· PAC-3:		
123-86-4	n-butyl acetate	3000* ppm
110-19-0	isobutyl acetate	7500** ppm
108-65-6	2-methoxy-1-methylethyl acetate	5000* ppm
7631-86-9	silicon dioxide, chemically prepared	4,500 mg/m3
1330-20-7	xylene	2500* ppm
64-17-5	ethanol	15000* ppm
141-78-6	ethyl acetate	10000** ppm
100-41-4	ethylbenzene	1800* ppm

7 Handling and storage

· Handling:

· Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Protect against electrostatic charges.

Use explosion-proof apparatus / fittings and spark-proof tools.

· Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

· Conditions for safe storage, including any incompatibilities

· Storage:

· Requirements to be met by storerooms and receptacles:

Store in a cool, well-ventilated area, away from heat and sources of ignition

Provide solvent resistant, sealed floor.

Observe the label precautions, the expiration date for the use, if not indicated, is from delivery date of goods.

In cases where there is no reported expiration date, it means that the product must be used within 8 months.

· Information about storage in one common storage facility: Not required.

· Further information about storage conditions:

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

· Specific end use(s) Those typical of the product and the instructions in the data sheet if required.

—US

(Contd. on page 5)

Product number LGA6964**Trade name: CLEAR PU TOPCOAT 20SH**

(Contd. of page 4)

8 Exposure controls/personal protection

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

· **Control parameters**

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

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

At this time, the other constituents have no known exposure limits.

123-86-4 n-butyl acetate

PEL	Long-term value: 710 mg/m , 150 ppm
REL	Long-term value: 950 mg/m , 200 ppm
TLV	Short-term value: 712 mg/m , 150 ppm Long-term value: 238 mg/m , 50 ppm

110-19-0 isobutyl acetate

PEL	Long-term value: 700 mg/m , 150 ppm
REL	Long-term value: 700 mg/m , 150 ppm
TLV	Short-term value: 172 mg/m , 150 ppm Long-term value: 238 mg/m , 50 ppm

108-65-6 2-methoxy-1-methylethyl acetate

WEEL	Long-term value: 50 ppm
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100-41-4 ethylbenzene

PEL	Long-term value: 435 mg/m , 100 ppm
REL	Short-term value: 545 mg/m , 125 ppm Long-term value: 435 mg/m , 100 ppm
TLV	Long-term value: 87 mg/m , 20 ppm BEI

· **Ingredients with biological limit values:**

100-41-4 ethylbenzene

BEI	0.7 g/g creatinine Medium: urine Time: end of shift at end of workweek Parameter: Sum of mandelic acid and phenylglyoxylic acid (nonspecific, semi-quantitative)
-	Medium: end-exhaled air Time: not critical Parameter: Ethyl benzene (semi-quantitative)

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **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.

· **Breathing equipment:** Not required.

(Contd. on page 6)

US

Product number LGA6964
Trade name: CLEAR PU TOPCOAT 20SH

(Contd. of page 5)

· **Protection of hands:**



Protective gloves

Due to missing tests no recommendation to the glove material can be given for the product. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

The glove material has to be impermeable and resistant to the product .

· **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.

· **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

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· **Form:**

Fluid

· **Color:**

According to product specification

· **Odor:**

Characteristic

· **Odor threshold:**

Not determined.

· **pH-value:**

Not determined.

· **Change in condition**

· **Melting point/Melting range:**

Undetermined.

· **Boiling point/Boiling range:**

78°C (°F)

· **Flash point:**

18°C (°F)

· **Flammability (solid, gaseous):**

Not applicable.

· **Ignition temperature:**

315°C (°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:**

1.2 Vol %

· **Upper:**

10.8 Vol %

· **Vapor pressure at 20°C (68 °F):**

20 hPa (mm Hg)

(Contd. on page 7)

Product number LGA6964
Trade name: CLEAR PU TOPCOAT 20SH

(Contd. of page 6)

· Density at 20°C (68 °F):		0.995 g/cm (lbs/gal)
· Relative density		Not determined.
· Vapor 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 at 20°C (68 °F):		38 s (ISO 6 mm)
· Oxidising properties:		N.A.
· Solvent content:		
· VOC content:		53.37 % 531.0 g/l / 4.43 lb/gl
· Solids content:		46.6 %
· Other information (HAPS)		
1330-20-7	xylene	0.5-1%
100-41-4	ethylbenzene	≥0.1-<0.5%
108-88-3	toluene	<0.1%
· Other information		No further relevant information available.

10 Stability and reactivity

- **Reactivity** typical of the product as indicated in the data sheet
- **Chemical stability** The product is stable in normal conditions of storage and use recommended
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions** Vapours may form explosive mixtures with air
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· LD/LC50 values that are relevant for classification:		
123-86-4 n-butyl acetate		
Oral	LD50	10,760 mg/kg (rat/szczur/mouse/souris/Maus/ratón)
Dermal	LD50	14,000 mg/kg (rabbit/królik/Kaninchen/conejo/lapin)
Inhalative	LC50/4 h	21.1 mg/l (rat/szczur/mouse/souris/Maus/ratón)
110-19-0 isobutyl acetate		
Oral	LD50	13,400 mg/kg (rat/szczur/mouse/souris/Maus/ratón)
Dermal	LD50	17,401 mg/kg (rabbit/królik/Kaninchen/conejo/lapin)
Inhalative	LC50/4 h	31 mg/l (rat/szczur/mouse/souris/Maus/ratón)

(Contd. on page 8)

Product number LGA6964

Trade name: CLEAR PU TOPCOAT 20SH

(Contd. of page 7)

108-65-6 2-methoxy-1-methylethyl acetate

Oral	LD50	8,532 mg/kg (rat/szczur/mouse/souris/Maus/ratón)
Dermal	LD50	5,001 mg/kg (rabbit/królik/Kaninchen/conejo/lapín)
Inhalative	LC50/4 h	35.7 mg/l (rat/szczur/mouse/souris/Maus/ratón)

64-17-5 ethanol

Oral	LD50	10,470 mg/kg (rat/szczur/mouse/souris/Maus/ratón)
Dermal	LD50	20,000 mg/kg (rabbit/królik/Kaninchen/conejo/lapín)
Inhalative	LC50/4 h	124.7 mg/l (rat/szczur/mouse/souris/Maus/ratón)

E96096

Oral	LD50	2,001 mg/kg (rat/szczur/mouse/souris/Maus/ratón)
Dermal	LD50	2,001 mg/kg (rat/szczur/mouse/souris/Maus/ratón)

100-41-4 ethylbenzene

Oral	LD50	3,500 mg/kg (rat/szczur/mouse/souris/Maus/ratón)
Dermal	LD50	15,486 mg/kg (rabbit/królik/Kaninchen/conejo/lapín)
Inhalative	LC50/4 h	17.2 mg/l (rat/szczur/mouse/souris/Maus/ratón)

· **Primary irritant effect:**

- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.

· **Sensitization:** Sensitization possible through skin contact.

· **Additional toxicological information:**

Irritant

May cause drowsiness or dizziness.

Contains E96096. May produce an allergic reaction.

· **Carcinogenic categories**

Ethylbenzene

From IARC MONOGRAPHS VOLUME 77/2000

Human carcinogenicity data

Two studies of workers potentially exposed to ethylbenzene in a production plant and a styrene polymerization plant were available. In the first study, no excess of cancer incidence was found but the description of methods was insufficient to allow proper evaluation of this finding. In the second study, no cancer mortality excess was observed during the follow-up of 15 years.

Evaluation

There is inadequate evidence in humans for the carcinogenicity of ethylbenzene. There is sufficient evidence in experimental animals for the carcinogenicity of ethylbenzene.

· **IARC (International Agency for Research on Cancer - Cl. 1 and 2)**

64-17-5	ethanol	1
100-41-4	ethylbenzene	2B

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

US

(Contd. on page 9)

Product number LGA6964

Trade name: CLEAR PU TOPCOAT 20SH

(Contd. of page 8)

12 Ecological information

· Toxicity

· Aquatic toxicity:

123-86-4 n-butyl acetate

EC50	648 mg/l (algae) (72 h)
	44 mg/l (daphnia) (48 h)
LC50 (96h)	18 mg/l (Fish)

110-19-0 isobutyl acetate

EC50	370 mg/l (algae) (72 h)
	25 mg/l (daphnia)
LC50 (96h)	17 mg/l (Fish)

108-65-6 2-methoxy-1-methylethyl acetate

EC50	1,001 mg/l (algae) (72 h)
	501 mg/l (daphnia) (48 h)
LC50 (96h)	134 mg/l (Fish)

64-17-5 ethanol

EC50	5,012 mg/l (daphnia) (48 h)
LC50 (96h)	15.3 mg/l (Fish)

E96096

EC50	101 mg/l (algae) (72 h)
	101 mg/l (daphnia) (48 h)
LC50 (96h)	101 mg/l (Fish)

100-41-4 ethylbenzene

EC50	75 mg/l (daphnia) (48 h)
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· Persistence and degradability No further relevant information available.

· Substances Easily biodegradable

123-86-4	n-butyl acetate	.
110-19-0	isobutyl acetate	.
108-65-6	2-methoxy-1-methylethyl acetate	.
64-17-5	ethanol	.
100-41-4	ethylbenzene	.

· Behavior in environmental systems:

· Bioaccumulative potential No further relevant information available.

· Mobility in soil No further relevant information available.

· Additional ecological information:

· General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

· Other adverse effects No further relevant information available.

US

(Contd. on page 10)

Product number LGA6964
Trade name: CLEAR PU TOPCOAT 20SH

(Contd. of page 9)

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Hand over to hazardous waste disposers.

Dispose of contents and container in accordance with local state and federal regulations.

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· **UN-Number**

· **DOT**

NA1263

· **IMDG, IATA**

UN1263

· **UN proper shipping name**

· **DOT**

Paint

· **IMDG, IATA**

PAINT

· **Transport hazard class(es)**

· **DOT**



· **Class**

3 Flammable liquids

· **Label**

3

· **Class**

3 Flammable liquids

· **Label**

3

· **IMDG, IATA**



· **Class**

3 Flammable liquids

· **Label**

3

· **Packing group**

· **DOT, IMDG, IATA**

III

· **Environmental hazards:**

· **Marine pollutant:**

No

· **Special precautions for user**

Warning: Flammable liquids

· **Danger code (Kemler):**

-

· **EMS Number:**

F-E, S-E

· **Stowage Category**

A

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

Not applicable.

(Contd. on page 11)

Safety Data Sheet

29 CFR Parts 1910 1915 1926

Printing date 10/12/2017

Version number 1

Reviewed on 10/12/2017

Product number LGA6964**Trade name: CLEAR PU TOPCOAT 20SH**

(Contd. of page 10)

· Transport/Additional information:**· IMDG**

· Limited quantities (LQ)

5L

· Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· UN "Model Regulation":

UN 1263 PAINT, 3, III

15 Regulatory information**· SARA****· Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings) :

1330-20-7	xylene	0.5-1%
100-41-4	ethylbenzene	≥0.1-<0.5%
108-88-3	toluene	<0.1%

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

· Proposition 65**· Chemicals known to cause cancer:**

100-41-4	ethylbenzene	*	≥0.1-<0.5%
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· Chemicals known to cause reproductive toxicity for females:

70657-70-4	2-methoxypropyl acetate	<0.1%
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· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

64-17-5	ethanol	≥0.1-<0.5%
108-88-3	toluene	<0.1%

· Carcinogenic categories**· EPA (Environmental Protection Agency)**

1330-20-7	xylene	I	0.5-1%
100-41-4	ethylbenzene	D	≥0.1-<0.5%
108-88-3	toluene	II	<0.1%

· TLV (Threshold Limit Value established by ACGIH)

1330-20-7	xylene	A4
64-17-5	ethanol	A3
100-41-4	ethylbenzene	A3
108-88-3	toluene	A4

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

None of the ingredients is listed.

(Contd. on page 12)

Safety Data Sheet

29 CFR Parts 1910 1915 1926

Printing date 10/12/2017

Version number 1

Reviewed on 10/12/2017

Product number LGA6964**Trade name: CLEAR PU TOPCOAT 20SH**

(Contd. of page 11)

- **National regulations:**

The product is subject to be labeled according with the prevailing version of the regulations on hazardous substances.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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 SDS:** IVM Chemicals Srl

- **Contact:** See emergency phone

- **Date of preparation / last revision** 10/12/2017 / -

- **Abbreviations and acronyms:**

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)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Flam. Liq. 2: Flammable liquids . Category 2

Flam. Liq. 3: Flammable liquids . Category 3

Acute Tox. 4: Acute toxicity . Category 4

Eye Irrit. 2A: Serious eye damage/eye irritation . Category 2A

Skin Sens. 1: Skin sensitisation . Category 1

Carc. 2: Carcinogenicity . Category 2

Carc. 2: Carcinogenicity . Category 2

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

STOT RE 2: Specific target organ toxicity (repeated exposure) . Category 2

Asp. Tox. 1: Aspiration hazard . Category 1

Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard . Category 4

- **Sources**

REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL and following amendments

Agency ECHA web site

INRS Fiche Toxicologique

IARC International agency for research on cancer