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Safety Data Sheet

acc. to OSHA HCS

Printing date 07/15/2024

Reviewed on 07/15/2024

1 Identification

· Product identifier

- · Trade name: HO2232 VOC HARDENER NORMAL
- · Article number: HO2232
- · Application of the substance / the mixture refer to the relevant Technical Data Sheet
- · Details of the supplier of the safety data sheet

• *Manufacturer/Supplier:* General Paint Co. S.A.L. P.O. Box 7623 Beirut LEBANON info@generalpaint.biz

- · Information department: Product Safety Department
- Emergency telephone number: 1-800-535-5053 contract number (89244)

2 Hazard(s) identification

· Classification of the substance or mixture GHS02 Flame Flammable Liquids 3 H226 Flammable liquid and vapor. GHS08 Health hazard Sensitization - Respiratory 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H351 Suspected of causing cancer. Carcinogenicity 2 GHS07 Skin Irritation 2 H315 Causes skin irritation. Eye Irritation 2A H319 Causes serious eye irritation. Specific Target Organ Toxicity - Single Exposure 3 H335 May cause respiratory irritation. · Label elements · GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS). (Contd. on page 2)



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Trade name: HO2232 VOC HARDENER NORMAL

· Hazard pictograms



· Signal word Danger

· Hazard-determining components of labeling: 4-chloro-alpha, alpha, alpha-trifluorotoluene Homopolymer of hexamethylene diisocyanate Isophorone Diisocyanate homopolymer ethylbenzene · Hazard statements Flammable liquid and vapor. Causes skin irritation. Causes serious eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Suspected of causing cancer. May cause respiratory irritation. · Precautionary statements Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing dust/fume/gas/mist/vapors/spray Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. [In case of inadequate ventilation] wear respiratory protection. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical advice/attention. Call a poison center/doctor if you feel unwell. Specific treatment (see on this label). Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. If experiencing respiratory symptoms: Call a poison center/doctor.

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Trade name: HO2232 VOC HARDENER NORMAL

(Contd. of page 2) In case of fire: Use CO2, powder or water spray to extinguish. Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up. Dispose of contents/container in accordance with local/regional/national/international regulations. · Classification system: · NFPA ratings (scale 0 - 4) Health = 2Fire = 3Reactivity = 0· HMIS-ratings (scale 0 - 4) HEALTH *2 Health = *23 FIRE Fire = 3REACTIVITY 0 Reactivity = 0· Other hazards

- · Results of PBT and vPvB assessment
- · PBT: Not applicable.
- · **vPvB:** Not applicable.

3 Composition/information on ingredients

· Chemical characterization: Mixtures

· **Description:** Mixture of the substances listed below with nonhazardous additions.

-	components:	
28182-81-2	Homopolymer of hexamethylene diisocyanate	>25- <i>≤</i> 50%
98-56-6	4-chloro-alpha,alpha,alpha-trifluorotoluene	>25- <i>≤</i> 50%
53880-05-0	Isophorone Diisocyanate homopolymer	>2.5-≤10%
	2-Heptanone	>2.5- <i>≤</i> 10%
79-20-9	methyl acetate	>2.5-≤10%
108-65-6	2-methoxy-1-methylethyl acetate	<i>≤</i> 2.5%
100-41-4	ethylbenzene	<i>≤</i> 2.5%

4 First-aid measures

· Description of first aid measures

· General information: Immediately remove any clothing soiled by the product.

• After inhalation: In case of unconsciousness place patient stably in side position for transportation.

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- 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.

- · Information for doctor:
- Most important symptoms and effects, both acute and delayed No further relevant information available.
- Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures

- · Extinguishing media
- Suitable extinguishing agents: CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- · For safety reasons unsuitable extinguishing agents: Water with full jet
- · Special hazards arising from the substance or mixture No further relevant information available.
- · Advice for firefighters
- · Protective equipment: No special measures required.

6 Accidental release measures

	recautions, protective equipment and emergency p tive equipment. Keep unprotected persons away.	rocedures			
	ntal precautions: Do not allow to enter sewers/ surface	e or ground water.			
 Methods an 	nd material for containment and cleaning up:	J.			
	liquid-binding material (sand, diatomite, acid binders,	universal binders, sawdust).			
Dispose contaminated material as waste according to section 13.					
	Ensure adequate ventilation.				
	to other sections				
	7 for information on safe handling.				
	8 for information on personal protection equipment.				
	13 for disposal information.				
· Protective Action Criteria for Chemicals					
· PAC-1:					
28182-81-2	Homopolymer of hexamethylene diisocyanate	7.8 m	g/m³		
110-43-0	2-Heptanone	150 p	рт		
79-20-9	methyl acetate	250 p	рт		
108-65-6	2-methoxy-1-methylethyl acetate	50 pp	m		
1330-20-7	xylene	130 p	рт		
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100-41-4	ethylbenzene	33 ppm
822-06-0	hexamethylene-di-isocyanate	0.018 ppm
4098-71-9	3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	0.02 ppm
· PAC-2:		
28182-81-2	Homopolymer of hexamethylene diisocyanate	2.9 mg/m3
110-43-0	2-Heptanone	670 ppm
79-20-9	methyl acetate	1,700 ppm
108-65-6	2-methoxy-1-methylethyl acetate	1,000 ppm
1330-20-7	xylene	920* ppm
100-41-4	ethylbenzene	1100* ppm
822-06-0	hexamethylene-di-isocyanate	0.2 ppm
4098-71-9	3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	1.2 mg/m3
· PAC-3:		
28182-81-2	Homopolymer of hexamethylene diisocyanate	17 mg/m3
110-43-0	2-Heptanone	4000* ppm
79-20-9	methyl acetate	10000* ppm
108-65-6	2-methoxy-1-methylethyl acetate	5000* ppm
1330-20-7	xylene	2500* ppm
100-41-4	ethylbenzene	1800* ppm
822-06-0	hexamethylene-di-isocyanate	3 ppm
4098-71-9	3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	5.4 mg/m3

7 Handling and storage

- · Handling:
- · 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 against electrostatic charges. Keep respiratory protective device available.
- · Conditions for safe storage, including any incompatibilities
- · Storage:
- Requirements to be met by storerooms and receptacles: No special requirements.
- Information about storage in one common storage facility: Not required.
- Further information about storage conditions: Keep receptacle tightly sealed.

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Trade name: HO2232 VOC HARDENER NORMAL

- · Storage class: 3
- · 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 section 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.

110-43	B-0 2-Heptanone
PEL	Long-term value: 465 mg/m³, 100 ppm
REL	Long-term value: 465 mg/m³, 100 ppm
TLV	Long-term value: 50 ppm
79-20-	9 methyl acetate
PEL	Long-term value: 610 mg/m³, 200 ppm
REL	Short-term value: 760 mg/m³, 250 ppm Long-term value: 610 mg/m³, 200 ppm
TLV	Short-term value: 250 ppm Long-term value: 200 ppm
108-65	-6 2-methoxy-1-methylethyl acetate
WEEL	Long-term value: 50 ppm
100-41	-4 ethylbenzene
PEL	Long-term value: 435 mg/m³, 100 ppm
REL	Short-term value: 545 mg/m³, 125 ppm Long-term value: 435 mg/m³, 100 ppm
TLV	Long-term value: 20 ppm OTO, BEI, A3
· Ingred	lients with biological limit values:
100-41	-4 ethylbenzene
BEI 0. M Ti	15 g/g creatinine ledium: urine ime: end of shift at end of workweek arameter: Sum of mandelic acid and phenylglyoxylic acid (nonspecific)
· Additi	onal information: The lists that were valid during the creation were used as basis. (Contd. on page



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- · 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. Store protective clothing separately. Avoid contact with the eyes and skin.
- Breathing equipment: 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

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· 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

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Color:	Clear
Odor:	Characteristic
Odor threshold:	Not determined.
pH-value:	Not determined.
Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	137 °C (278.6 °F)
Flash point:	25 °C (77 °F)
Flammability (solid, gaseous):	Flammable.
Auto igniting:	430 °C (806 °F)
Decomposition temperature:	Not determined.
Ignition temperature:	Product is not selfigniting.
Danger of explosion:	Product is not explosive. However, formation of explosive air vapor mixtures are possible.
Explosion limits:	
Lower:	3.1 Vol %
Upper:	16 Vol %
Vapor pressure at 20 °C (68 °F):	220 hPa (165 mm Hg)
Density at 20 °C (68 °F):	1.20238 g/cm³ (10.03386 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/wat	er): Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Solvent content:	
Organic solvents:	50.2 %
Coating VOC content:	6.96 %
	139.7 g/l / 1.17 lb/gal
Material VOC content:	83.7 g/l / 0.70 lb/gal
Solids content:	49.7 %
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· Other information

No further relevant information available.

10 Stability and reactivity

- · Reactivity No further relevant information available.
- · Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- · Possibility of hazardous reactions No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- · Incompatible materials: No further relevant information available.
- · Hazardous decomposition products: No dangerous decomposition products known.

1 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:
- · Primary irritant effect:
- on the skin: Irritant to skin and mucous membranes.
- · on the eye: Irritating effect.
- · Sensitization: Sensitization possible through inhalation.
- · Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful Irritant

· Carcinogenic categories

•	rnational Agency for Research on Cancer)		
98-56-6	4-chloro-alpha,alpha,alpha-trifluorotoluene	2B	3
1330-20-7		3	
100-41-4	ethylbenzene	2B	3
· NTP (National Toxicology Program)			
None of the ingredients is listed.			
· OSHA-Ca (Occupational Safety & Health Administration)			
None of the	e ingredients is listed.		
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12 Ecological information

· Toxicity

- Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · 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 2 (Self-assessment): 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.

- · Results of PBT and vPvB assessment
- · PBT: Not applicable.
- · vPvB: Not applicable.
- · Other adverse effects No further relevant information available.

13 Disposal considerations

- · Waste treatment methods
- · Recommendation:

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

- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.

· UN-Number		
· DOT, ADR, IMDG, IATA	UN1263	
· UN proper shipping name		
DOT	Paint	
ADR	1263 PAINT	
· IMDG, IATA	PAINT	



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Transport hazard class(es)	NOT APPLICABLE
DOT	
Class Label	3 Flammable liquids 3
ADR, IMDG, IATA	5
Class Label	3 Flammable liquids 3
Packing group	
DOT, ĂĎŘ, IMDG, IATA	III
Environmental hazards: Marine pollutant:	No
Special precautions for user	Warning: Flammable liquids
Hazard identification number (Kemler code): EMS Number:	30
Stowage Category	F-E, <u>S-E</u> A
Transport in bulk according to Annex II of	
MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information:	
DOT Quantity limitations	On passenger aircraft/rail: 60 L
	On cargo aircraft only: 220 L
ADR Excepted quantities (EQ)	Code: E1
	Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
IMDG	5L
Limited quantities (LQ)	OL (Contd. on page



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Trade name: HO2232 VOC HARDENER NORMAL

	(Contd. of page 11)
 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

- Safety, health and environmental regulations/legislation specific for the substance or mixture No further relevant information available.

· Sara	
	5 (extremely hazardous substances):
4098-71-9	3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate
· Section 31	3 (Specific toxic chemical listings):
1330-20-7	xylene
100-41-4	ethylbenzene
822-06-0	hexamethylene-di-isocyanate
4098-71-9	3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate
· TSCA (To)	cic Substances Control Act):
All compon	ents have the value ACTIVE.
·Hazardous	s Air Pollutants
1330-20-7	xylene
100-41-4	ethylbenzene
822-06-0	hexamethylene-di-isocyanate
· Propositio	
· Chemicals	s known to cause cancer:
98-56-6 4	1-chloro-alpha,alpha,alpha-trifluorotoluene
100-41-4 e	ethylbenzene
· Chemicals	s known to cause reproductive toxicity for females:
None of the	e ingredients is listed.
· Chemicals	s known to cause reproductive toxicity for males:
None of the	e ingredients is listed.
· Chemicals	s known to cause developmental toxicity:
None of the	e ingredients is listed.
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· EPA (Environmental Protection Agency)	

1330-20-7 xylene

100-41-4 ethylbenzene

· Carcinogenic categories

· TLV (Threshold Limit Value)

1330-20-7 xylene

100-41-4 ethylbenzene

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

None of the ingredients is listed.

· GHS label elements

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

Hazard pictograms



· Signal word Danger

· Hazard-determining components of labeling: 4-chloro-alpha, alpha, alpha-trifluorotoluene Homopolymer of hexamethylene diisocyanate Isophorone Diisocyanate homopolymer ethylbenzene · Hazard statements Flammable liquid and vapor. Causes skin irritation. Causes serious eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Suspected of causing cancer. May cause respiratory irritation. · Precautionary statements Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing dust/fume/gas/mist/vapors/spray Wash thoroughly after handling.

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(Contd. of page 13) Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. [In case of inadequate ventilation] wear respiratory protection. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical advice/attention. Call a poison center/doctor if you feel unwell. Specific treatment (see on this label). Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. If experiencing respiratory symptoms: Call a poison center/doctor. In case of fire: Use CO2, powder or water spray to extinguish. Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up. Dispose of contents/container in accordance with local/regional/national/international regulations. · 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: Product safety department
- · Contact: N/A
- · Date of preparation / last revision 07/15/2024 / -
- Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail) ICAO: International Civil Aviation Organisation ADR: Accord relatif au transport international 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 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, ÉU) PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative NIOSH: National Institute for Occupational Safety OSHA: Occupational Safety & Health TLV: Threshold Limit Value (Contd. on page 15)



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PEL: Permissible Exposure Limit REL: Recommended Exposure Limit BEI: Biological Exposure Limit Flammable Liquids 3: Flammable liquids – Category 3 Skin Irritation 2: Skin corrosion/irritation – Category 2 Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A Sensitization - Respiratory 1: Respiratory sensitisation – Category 1 Carcinogenicity 2: Carcinogenicity – Category 2 Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3 • * Data compared to the previous version altered.