

1. Identification

Product identifier	GenFlex TPO Bonding Adhesive (for GF TPO)	
Other means of identification		
Product code	W590030400	
Recommended use	Construction. Adhesive.	
Recommended restrictions	None known.	
Manufacturer/Importer/Supplier/Distributor information		
Distributed by	Holcim Solutions and Products US, LLC	
Address	26 Century Boulevard, Suite 205 Nashville, TN 37214 GenFlex™ is a Holcim Solutions and Products US, LLC brand	
Website	Genflex.com	
Telephone Number	Technical: 1-800-443-4272	
Emergency Telephone Number	For Chemical Emergency, Spill, Leak, Fire, Exposure, or Incident: CHEMTREC within USA and Canada: 1-800-424-9300 CHEMTREC outside USA and Canada: +1 703-527-3887 (collect calls accepted)	

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 2
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2
	Carcinogenicity	Category 2
	Reproductive toxicity	Category 2
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Specific target organ toxicity, repeated exposure	Category 2
	Environmental hazards	Hazardous to the aquatic environment, acute hazard
Hazardous to the aquatic environment, long-term hazard		Category 2
OSHA defined hazards	Not classified.	
Label elements		



Signal word	Danger
Hazard statement	Highly flammable liquid and vapor. Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. Suspected of causing cancer. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure. Toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention

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. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe mist/vapors. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response

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. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. In case of fire: Use carbon dioxide, dry powder; water fog (large fires) to extinguish. Collect spillage.

Storage

Keep cool. Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)

None known.

Supplemental information

None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Toluene	108-88-3	15 - 40
Naphtha (petroleum), Solvent-refined Light	64741-84-0	10 - 30
Acetone	67-64-1	5 - 10
Formaldehyde, polymer with 4-(1,1-dimethylethyl) phenol	25085-50-1	1 - 5
Ethylbenzene	100-41-4	< 0.5
Zinc oxide	1314-13-2	< 0.5

Constituents of Naphtha

Chemical name	Common name and synonyms	CAS number	%
n-Hexane		110-54-3	< 30
Methylcyclopentane		96-37-7	10 - 30
Heptane		142-82-5	< 25
Cyclohexane		110-82-7	< 4
Benzene		71-43-2	< 0.1

Composition comments

All concentrations are in percent by weight unless otherwise indicated. Components not listed are either non-hazardous or are below reportable limits. Any concentration shown as a range is to protect confidentiality or is due to batch variation.

4. First-aid measures

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.

Skin contact

Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion

Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

May cause drowsiness or dizziness. Narcosis. Headache. Nausea, vomiting. Behavioral changes. Decrease in motor functions. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

General information	Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.
5. Fire-fighting measures	
Suitable extinguishing media	Larger fires: Dry powder. Carbon dioxide (CO ₂). Water fog. Small fires: Dry powder. Carbon dioxide (CO ₂). Dry sand.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed such as: Carbon oxides (CO _x). Hydrogen Chloride (HCl). Hydrocarbons.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Highly flammable liquid and vapor.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. Prevent product from entering drains. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe mist/vapors. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Constituents of Naphtha	Type	Value
Benzene (CAS 71-43-2)	STEL	5 ppm
	TWA	1 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Acetone (CAS 67-64-1)	PEL	2400 mg/m3	
		1000 ppm	
Ethylbenzene (CAS 100-41-4)	PEL	435 mg/m3	
		100 ppm	
Naphtha (petroleum), Solvent-refined Light (CAS 64741-84-0)	PEL	400 mg/m3	
		100 ppm	
Zinc oxide (CAS 1314-13-2)	PEL	5 mg/m3	Fume.
		5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.

Constituents of Naphtha	Type	Value
Heptane (CAS 142-82-5)	PEL	2000 mg/m3
		500 ppm
n-Hexane (CAS 110-54-3)	PEL	1800 mg/m3
		500 ppm
Cyclohexane (CAS 110-82-7)	PEL	1050 mg/m3
		300 ppm

US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value
Toluene (CAS 108-88-3)	Ceiling	300 ppm
	TWA	200 ppm

Constituents of Naphtha	Type	Value
Benzene (CAS 71-43-2)	Ceiling	25 ppm
	TWA	10 ppm

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Zinc oxide (CAS 1314-13-2)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Acetone (CAS 67-64-1)	STEL	500 ppm	
	TWA	250 ppm	
Ethylbenzene (CAS 100-41-4)	TWA	20 ppm	
		20 ppm	
Toluene (CAS 108-88-3)	TWA	20 ppm	
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Respirable fraction.

**US. ACGIH Threshold Limit Values
Components**

Components	Type	Value	Form
	TWA	2 mg/m3	Respirable fraction.
Constituents of Naphtha	Type	Value	
Benzene (CAS 71-43-2)	STEL	2.5 ppm	
	TWA	0.05 ppm	
Heptane (CAS 142-82-5)	STEL	500 ppm	
	TWA	400 ppm	
n-Hexane (CAS 110-54-3)	TWA	50 ppm	
Cyclohexane (CAS 110-82-7)	TWA	100 ppm	

**US. NIOSH: Pocket Guide to Chemical Hazards
Components**

Components	Type	Value	Form
Acetone (CAS 67-64-1)	TWA	590 mg/m3	
		250 ppm	
Ethylbenzene (CAS 100-41-4)	STEL	545 mg/m3	
		125 ppm	
	TWA	435 mg/m3	
		100 ppm	
Naphtha (petroleum), Solvent-refined Light (CAS 64741-84-0)	TWA	400 mg/m3	
		100 ppm	
Toluene (CAS 108-88-3)	STEL	560 mg/m3	
		150 ppm	
	TWA	375 mg/m3	
		100 ppm	
Zinc oxide (CAS 1314-13-2)	Ceiling	15 mg/m3	Dust.
	STEL	10 mg/m3	Fume.
	TWA	5 mg/m3	Dust.
		5 mg/m3	Fume.

Constituents of Naphtha

Constituents of Naphtha	Type	Value	
Benzene (CAS 71-43-2)	STEL	1 ppm	
	TWA	0.1 ppm	
Heptane (CAS 142-82-5)	Ceiling	1800 mg/m3	
		440 ppm	
	TWA	350 mg/m3	
		85 ppm	
n-Hexane (CAS 110-54-3)	TWA	180 mg/m3	
		50 ppm	
Cyclohexane (CAS 110-82-7)	TWA	1050 mg/m3	
		300 ppm	

Biological limit values

ACGIH

Constituents of Naphtha	Value	Determinant	Specimen	Sampling Time
Benzene (CAS 71-43-2)	500 µg/g	t,t-Muconic acid	Creatinine in urine	*

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Acetone (CAS 67-64-1)	25 mg/l	Acetone	Urine	*
Ethylbenzene (CAS 100-41-4)	0.15 g/g	Sum of mandelic acid and phenylglyoxylic acid	Creatinine in urine	*
Toluene (CAS 108-88-3)	0.3 mg/g	o-Cresol, with hydrolysis	Creatinine in urine	*
	0.03 mg/l	Toluene	Urine	*
	0.02 mg/l	Toluene	Blood	*
Constituents of Naphtha	Value	Determinant	Specimen	Sampling Time
Benzene (CAS 71-43-2)	25 µg/g	S-Phenylmercapturic acid	Creatinine in urine	*
n-Hexane (CAS 110-54-3)	0.5 mg/l	2,5-Hexanedione, without hydrolysis	Urine	*
Cyclohexane (CAS 110-82-7)	50 mg/g	1,2-Cyclohexanediol, with hydrolysis	Creatinine in urine	*

* - For sampling details, please see the source document.

Exposure guidelines**US - California OELs: Skin designation**

Benzene (CAS 71-43-2)	Can be absorbed through the skin.
n-Hexane (CAS 110-54-3)	Can be absorbed through the skin.
Toluene (CAS 108-88-3)	Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Toluene (CAS 108-88-3)	Skin designation applies.
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US ACGIH Threshold Limit Values: Skin designation

Benzene (CAS 71-43-2)	Danger of cutaneous absorption
n-Hexane (CAS 110-54-3)	Danger of cutaneous absorption

Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station and safety shower.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear approved chemical safety goggles.

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Examples of preferred glove barrier materials include: Fluoroelastomer (FKM). Polyethylene/Ethylene Vinyl Alcohol (PE/EVAL). Polyvinyl alcohol (PVA). Suitable gloves can be recommended by the glove supplier.

Skin protection

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Chemical respirator with organic vapor cartridge and full facepiece. Appropriate respirator selection should be made by a qualified professional.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Observe any medical surveillance requirements. When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Physical state	Liquid.
Form	Liquid.
Color	Yellow.

Odor Characteristic.

Odor threshold Not available.

pH Not determined; product is not soluble in water.

Melting point/freezing point Not determined.

Initial boiling point and boiling range 132.8 °F (56 °C)

Flash point -0.4 °F (-18 °C)

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Explosive limit - lower (%) 1.2

Explosive limit - upper (%) 7

Vapor pressure 29 hPa (68 °F (20 °C))
21.8 mm Hg (68 °F (20 °C))

Vapor density Not determined.

Relative density 0.84

Solubility(ies)

Solubility (water) Insoluble.

Partition coefficient (n-octanol/water) Not applicable, product is a mixture.

Auto-ignition temperature Not self-igniting.

Decomposition temperature Not applicable as the product is not unstable.

Viscosity > 3300 - < 3800 cP (73.4 °F (23 °C))

Other information Organic solvents: 76.2%
Solids: 23.6%
Ignition temperature: 465.0 °C (869 °F)

Density 7.02 lb/gal

Explosive properties Not explosive.

Kinematic viscosity 3436 mm²/s ASTM D 445 (104 °F (40 °C))

Oxidizing properties Not oxidizing.

VOC 633 g/l
5.28 lb/gal

10. Stability and reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Material is stable under normal conditions.

Possibility of hazardous reactions No dangerous reaction known under conditions of normal use.

Conditions to avoid Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.

Incompatible materials Acids. Strong oxidizing agents.

Hazardous decomposition products No hazardous decomposition products are known. In the event of fire: See Section 5.

11. Toxicological information

Information on likely routes of exposure

Inhalation May cause drowsiness or dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful.

Skin contact Causes skin irritation.
Eye contact Causes serious eye irritation.
Ingestion Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics May cause drowsiness or dizziness. Narcosis. Headache. Nausea, vomiting. Behavioral changes. Decrease in motor functions. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity Not expected to be acutely toxic.

Components	Species	Test Results
Acetone (CAS 67-64-1)		
Acute		
Dermal		
LD50	Rabbit	> 15700 mg/kg, 24 Hours
Inhalation		
<i>Vapor</i>		
LC50	Rat	76 mg/l, 4 Hours
Oral		
LD50	Rat	5800 mg/kg
Ethylbenzene (CAS 100-41-4)		
Acute		
Dermal		
LD50	Rabbit	15400 mg/kg
Inhalation		
LC50	Rat	17.4 mg/l, 4 hours
Oral		
LD50	Rat	3500 - 4700 mg/kg
Toluene (CAS 108-88-3)		
Acute		
Dermal		
LD50	Rabbit	12200 mg/kg
Inhalation		
<i>Vapor</i>		
LC50	Rat	28.1 mg/l, 4 Hours
Zinc oxide (CAS 1314-13-2)		
Acute		
Inhalation		
LC50	Mouse	> 5.7 mg/l, 4 Hours
Oral		
LD50	Rat	> 5000 mg/kg
Constituents of Naphtha		
Species		
Test Results		
Benzene (CAS 71-43-2)		
Acute		
Oral		
LD50	Rat	930 mg/kg
Heptane (CAS 142-82-5)		
Acute		
Inhalation		
<i>Vapor</i>		
LC50	Rat	> 29.29 mg/l, 4 Hours
Oral		
LD50	Rat	15000 mg/kg

Constituents of Naphtha	Species	Test Results
n-Hexane (CAS 110-54-3)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
<i>Vapor</i>		
LC50	Mouse, Rat	169.2 mg/l, 4 Hours
Oral		
LD50	Rat	28710 mg/kg
Cyclohexane (CAS 110-82-7)		
Acute		
Oral		
LD50	Rat	12710 mg/kg
Skin corrosion/irritation	Causes skin irritation.	
Serious eye damage/eye irritation	Causes serious eye irritation.	
Respiratory or skin sensitization		
Respiratory sensitization	Not a respiratory sensitizer.	
Skin sensitization	This product is not expected to cause skin sensitization.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	Suspected of causing cancer.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Benzene (CAS 71-43-2)	1 Carcinogenic to humans.	
Ethylbenzene (CAS 100-41-4)	2B Possibly carcinogenic to humans.	
Toluene (CAS 108-88-3)	3 Not classifiable as to carcinogenicity to humans.	
NTP Report on Carcinogens		
Benzene (CAS 71-43-2)	Known To Be Human Carcinogen.	
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)		
Benzene (CAS 71-43-2)	Cancer	
Reproductive toxicity	Suspected of damaging fertility or the unborn child.	
Specific target organ toxicity - single exposure	May cause drowsiness or dizziness.	
Specific target organ toxicity - repeated exposure	May cause damage to organs through prolonged or repeated exposure.	
Aspiration hazard	Not an aspiration hazard.	

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects.

Components	Species	Test Results
Acetone (CAS 67-64-1)		
Aquatic		
<i>Acute</i>		
Crustacea	LC50	Daphnia pulex 8800 mg/l, 48 Hours
Fish	LC50	Pimephales promelas 7163 mg/l, 96 Hours
<i>Chronic</i>		
Crustacea	NOEC	Daphnia magna > 79 mg/l, 21 days
Ethylbenzene (CAS 100-41-4)		
Aquatic		
<i>Acute</i>		
Crustacea	EC50	Water flea (Daphnia magna) > 1.81 - < 2.38 mg/l, 48 hours

Components		Species	Test Results
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	4.2 mg/l, 96 hours
<i>Chronic</i>			
Crustacea	EC50	Ceriodaphnia dubia	3.6 mg/l, 7 days
Toluene (CAS 108-88-3)			
Aquatic			
<i>Acute</i>			
Crustacea	EC50	Daphnia magna	11.5 mg/l, 48 hours
Fish	LC50	Oncorhynchus kisutch	5.5 mg/l, 96 hours
<i>Chronic</i>			
Crustacea	NOEC	Ceriodaphnia dubia	0.74 mg/l, 7 days
Fish	NOEC	Oncorhynchus kisutch	1.4 mg/l, 40 days

Constituents of Naphtha		Species	Test Results
n-Hexane (CAS 110-54-3)			
Aquatic			
<i>Acute</i>			
Crustacea	LC50	Daphnia magna	2.1 mg/l, 48 hours
Fish	LC50	Pimephales promelas	2.5 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available for this product.

Partition coefficient n-octanol / water (log Kow)

Acetone (CAS 67-64-1)	-0.24
Ethylbenzene (CAS 100-41-4)	3.15
Toluene (CAS 108-88-3)	2.73

Mobility in soil No data available.

Other adverse effects The product contains volatile organic compounds which have a photochemical ozone creation potential.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Do not incinerate sealed containers. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

US RCRA Hazardous Waste U List: Reference

Cyclohexane (CAS 110-82-7) U056

Waste from residues / unused products Dispose in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN1133
UN proper shipping name	Adhesives
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Packing group	II

Environmental hazards

Marine pollutant	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	149, B52, IB2, T4, TP1, TP8
Packaging exceptions	150
Packaging non bulk	173
Packaging bulk	242

IATA

UN number	UN1133
UN proper shipping name	Adhesives
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	Yes.
ERG Code	3L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1133
UN proper shipping name	ADHESIVES
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	Yes.
EmS	F-E, S-D
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Acetone (CAS 67-64-1)	Listed.
Benzene (CAS 71-43-2)	Listed.
Cyclohexane (CAS 110-82-7)	Listed.
Ethylbenzene (CAS 100-41-4)	Listed.
Heptane (CAS 142-82-5)	Listed.
Methylcyclopentane (CAS 96-37-7)	Listed.
Naphtha (petroleum), Solvent-refined Light (CAS 64741-84-0)	Listed.
n-Hexane (CAS 110-54-3)	Listed.
Toluene (CAS 108-88-3)	Listed.
Zinc oxide (CAS 1314-13-2)	Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Benzene (CAS 71-43-2)	Cancer
	Central nervous system
	Blood
	Aspiration
	Skin
	Eye
	respiratory tract irritation
	Flammability

Toxic Substances Control Act (TSCA)

All components of the mixture on the TSCA 8(b) inventory are designated "active".

Superfund Amendments and Reauthorization Act of 1986 (SARA)**SARA 302 Extremely hazardous substance**

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories Flammable (gases, aerosols, liquids, or solids)
 Skin corrosion or irritation
 Serious eye damage or eye irritation
 Carcinogenicity
 Reproductive toxicity
 Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Ethylbenzene	100-41-4	< 0.5
Toluene	108-88-3	15 - 40
Benzene	71-43-2	< 0.1
Cyclohexane	110-82-7	< 4
n-Hexane	110-54-3	< 30

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Benzene (CAS 71-43-2)
 Ethylbenzene (CAS 100-41-4)
 n-Hexane (CAS 110-54-3)
 Toluene (CAS 108-88-3)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Contains component(s) regulated under the Safe Drinking Water Act.**Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number**

Acetone (CAS 67-64-1) 6532
 Toluene (CAS 108-88-3) 6594

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Acetone (CAS 67-64-1) 35 %WV
 Toluene (CAS 108-88-3) 35 %WV

DEA Exempt Chemical Mixtures Code Number

Acetone (CAS 67-64-1) 6532
 Toluene (CAS 108-88-3) 594

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Acetone (CAS 67-64-1) Low priority

US state regulations**US. Massachusetts RTK - Substance List**

Acetone (CAS 67-64-1)
 Benzene (CAS 71-43-2)
 Cyclohexane (CAS 110-82-7)
 Ethylbenzene (CAS 100-41-4)
 Heptane (CAS 142-82-5)
 Methylcyclopentane (CAS 96-37-7)
 Naphtha (petroleum), Solvent-refined Light (CAS 64741-84-0)
 n-Hexane (CAS 110-54-3)
 Toluene (CAS 108-88-3)
 Zinc oxide (CAS 1314-13-2)

US. New Jersey Worker and Community Right-to-Know Act

Acetone (CAS 67-64-1)
 Benzene (CAS 71-43-2)
 Cyclohexane (CAS 110-82-7)
 Ethylbenzene (CAS 100-41-4)
 Heptane (CAS 142-82-5)

Methylcyclopentane (CAS 96-37-7)
Naphtha (petroleum), Solvent-refined Light (CAS 64741-84-0)
n-Hexane (CAS 110-54-3)
Toluene (CAS 108-88-3)
Zinc oxide (CAS 1314-13-2)

US. Pennsylvania Worker and Community Right-to-Know Law

Acetone (CAS 67-64-1)
Benzene (CAS 71-43-2)
Cyclohexane (CAS 110-82-7)
Ethylbenzene (CAS 100-41-4)
Heptane (CAS 142-82-5)
Methylcyclopentane (CAS 96-37-7)
n-Hexane (CAS 110-54-3)
Toluene (CAS 108-88-3)
Zinc oxide (CAS 1314-13-2)

US. Rhode Island RTK

Acetone (CAS 67-64-1)
Benzene (CAS 71-43-2)
Cyclohexane (CAS 110-82-7)
Ethylbenzene (CAS 100-41-4)
Heptane (CAS 142-82-5)
Methylcyclopentane (CAS 96-37-7)
Naphtha (petroleum), Solvent-refined Light (CAS 64741-84-0)
n-Hexane (CAS 110-54-3)
Toluene (CAS 108-88-3)
Zinc oxide (CAS 1314-13-2)

California Proposition 65



WARNING: This product can expose you to chemicals including Benzene, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

Benzene (CAS 71-43-2) Listed: February 27, 1987
Ethylbenzene (CAS 100-41-4) Listed: June 11, 2004

California Proposition 65 - CRT: Listed date/Developmental toxin

Benzene (CAS 71-43-2) Listed: December 26, 1997
Toluene (CAS 108-88-3) Listed: January 1, 1991

California Proposition 65 - CRT: Listed date/Male reproductive toxin

Benzene (CAS 71-43-2) Listed: December 26, 1997
n-Hexane (CAS 110-54-3) Listed: December 15, 2017

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Acetone (CAS 67-64-1)
Benzene (CAS 71-43-2)
Cyclohexane (CAS 110-82-7)
Ethylbenzene (CAS 100-41-4)
Heptane (CAS 142-82-5)
Methylcyclopentane (CAS 96-37-7)
Naphtha (petroleum), Solvent-refined Light (CAS 64741-84-0)
n-Hexane (CAS 110-54-3)
Toluene (CAS 108-88-3)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	19-March-2023
Revision date	-
Version #	01
HMIS® ratings	Health: 2* Flammability: 3 Physical hazard: 0
Disclaimer	Holcim Solutions and Products US, LLC cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.