



Safety Data Sheet

JACKCRETE® 220-D

Revision date : 10/11/2016
Version: 2.0

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1. Identification

Product identifier used on the label

JACKCRETE* 220-D

Recommended use of the chemical and restriction on use

Recommended use*: polyurethane component; industrial chemicals
Suitable for use in industrial sector: polymers industry; chemical industry

* The "Recommended Use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:

JACKCRETE, LLC
705 Industry Drive
Hampton, VA 23661, USA

Telephone: +1 757 827-7822

Emergency telephone number

CHEMTREC: 1-800-424-9300

Other means of identification

Chemical family: Resin
Synonyms: URETHANE SYSTEM RESIN COMPONENT

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

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Classification of the product

Eye Dam./Irrit.	2A	Serious eye damage/eye irritation
Skin Corr./Irrit.	2	Skin corrosion/irritation
STOT RE	2 (oral)	Specific target organ toxicity —single exposure

Label elements

Pictogram:



Signal Word:
Warning

Hazard Statement:

H319	Causes serious eye irritation.
H315	Causes skin irritation.
H373	May cause damage to organs (Olfactory organs) through prolonged or repeated exposure (inhalation).

Precautionary Statements (Prevention):

P280	Wear protective gloves.
P260	Do not breathe dust/gas/mist/vapors.
P264	Wash with plenty of water and soap thoroughly after handling.

Precautionary Statements (Response):

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314	Get medical advice/attention if you feel unwell.
P303 + P362	IF ON SKIN (or hair): Wash with plenty of soap and water.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.

Precautionary Statements (Disposal):

P501	Dispose of contents/container to hazardous or special waste collection point.
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Hazards not otherwise classified

No specific dangers known, if the regulations/notes for storage and handling are considered.

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

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<u>CAS Number</u>	<u>Weight %</u>	<u>Chemical Name</u>
Proprietary	< 4.0%	Tertiary Amine Catalyst

4. First-Aid Measures

Description of first-aid measures

General advice:

Remove contaminated clothing.

If inhaled:

Remove the affected individual into fresh air and keep the person calm. Seek medical attention.

If on skin:

Wash affected areas thoroughly with soap and water.

If in eyes:

In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. Consult an eye specialist.

If swallowed:

Rinse mouth and then drink plenty of water. Do not induce vomiting. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms are eye irritation and skin irritation upon contact. Repeated inhalation of high concentrations may cause irritation, tremors, and/or confusion as well as cardiac sensitization.

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment: Treat according to symptoms (decontamination, vital functions)
No known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:

Water spray, dry powder, carbon dioxide, foam

Special hazards arising from the substance or mixture

Hazards during fire-fighting:

No particular hazard known

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Advice for Fire fighters

Protective equipment for firefighting:

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. Accidental release measures

Further accidental release measures:

High risk of slipping due to leakage/spillage of product.

Personal precautions, protective equipment and emergency procedures

Clear area. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.

Environmental precautions

Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up

Spills should be contained, solidified, and placed in appropriate containers for disposal

7. Handling and Storage

Precautions for safe handling

Ensure thorough ventilation of stores and work areas. Avoid aerosol formation. Protect against moisture. Relieve pressure slowly when opening storage container.

Protection against fire and explosion:

No explosion proofing necessary.

Conditions for safe storage, including any incompatibilities

Segregate from foods and animal feeds. Segregate from acids. Segregate from oxidants.

Suitable materials for containers: Carbon Steel (Iron), High Density Polyethylene (HDPE), Low Density Polyethylene (LDPE), Stainless Steel 1.4301 (V2)

Further information on storage conditions: No special precautions necessary.

Storage stability:

Storage temperature: 65 - 80 °F

The stated upper storage temperature is noted for health and safety in the workplace. The storage temperature will affect the handling characteristics and quality of the product. Recommended storage temperatures for specific products are reported in our Technical Bulletins.

8. Exposure Controls/Personal Protection

Components with occupational exposure limits

Tertiary Amine Catalyst

TWA

None Established

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Advice on system design:

Provide local exhaust ventilation.

Personal protective equipment

Respiratory protection:

Wear NIOSH-certified (or equivalent) organic vapor respirator as needed.

Hand protection:

Chemical resistant protective gloves should be worn.

Eye protection:

Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body protection:

Standard work clothes and shoes.

General safety and hygiene measures:

Wear protective clothing as necessary to prevent contact. Contaminated equipment or clothing should be cleaned after each use or disposed of.

9. Physical and Chemical Properties

Form:	Liquid.
Odor:	Faint ammonia odor
Odor threshold:	Not applicable
Color:	Light brown
pH value:	Not applicable
Freezing point:	0 °C
Boiling point:	> 100 °C
Sublimation point:	No applicable information available.
Flash point:	> 20 °C (Closed Cup)
Flammability:	Not flammable
Lower explosion limit:	For liquids not relevant for classification and labelling. The lower explosion point may be 5 - 15 °C below the flash point.
Upper explosion limit:	For liquids not relevant for classification and labelling.
Autoignition:	> 250 °C
Vapor pressure:	not applicable
Density:	9.8 - 10.2 lb/USg (25 °C)
Relative density:	Not applicable
Vapor density:	Not applicable
Partitioning coefficient n-octanol/water (log Pow):	Unspecified
Self-ignition temperature:	Not self-igniting
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.
Viscosity, dynamic:	600 - 900 mPa.s (20 °C)
Viscosity, kinematic:	No applicable information available.
Solubility in water:	Soluble.
Solubility (quantitative):	No applicable information available.
Solubility (qualitative):	No applicable information available.

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Molar mass:	360 g/mol
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.
Other Information:	If necessary, information on other physical and chemical parameters is indicated in this section.

10. Stability and Reactivity

Reactivity

No hazardous reactions if stored and handled as prescribed.

Corrosion to metals:

No corrosive effect on metal.

Oxidizing properties:

Not an oxidizer.

Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

The product is stable if stored and handled as prescribed/indicated.

Conditions to avoid

Temperatures below 0°C.

Incompatible materials

Acids, oxidizing agents, isocyanates and other chemicals that react with hydroxyl group.

Hazardous decomposition products

Decomposition products:

Hazardous decomposition products: carbon monoxide, carbon dioxide, nitrogen oxide, hydrogen cyanide, gases/vapors.

Thermal decomposition:

No decomposition if stored and handled as prescribed/indicated.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

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Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: No known acute effects.

Oral

No applicable information available.

Inhalation

No applicable information available.

Dermal

No applicable information available.

Assessment other acute effects

Assessment of STOT single:

Based on the available information there is no specific organ toxicity to be expected after a single exposure based on expert judgment.

Irritation / corrosion

Assessment of irritating effects: Irritating to eyes and skin.

Sensitization

Assessment of sensitization: The chemical structure does not suggest a sensitizing effect. No applicable information available.

Aspiration Hazard

No aspiration hazard expected.

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: Repeated exposure may affect certain organs.

Genetic toxicity

Assessment of mutagenicity: The chemical structure does not suggest a specific alert for such an effect.

No applicable information available.

Carcinogenicity

Assessment of carcinogenicity: The chemical structure does not suggest a specific alert for such an effect. No applicable information available.

Reproductive toxicity

Assessment of reproduction toxicity: The chemical structure does not suggest a specific alert for such an effect. No applicable information available.

Teratogenicity

Assessment of teratogenicity: The chemical structure does not suggest a specific alert for such an effect.

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No applicable information available.

Other Information

The product has not been tested. The statement has been derived from the properties of the individual components.

Symptoms of Exposure

The most important known symptoms and effects are described in the labeling (see section 2) and/or in section 11.

Medical conditions aggravated by overexposure

Data available do not indicate that there are medical conditions that are generally recognized as being aggravated by exposure to this substance/product.

12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms. The product has not been tested. The statement has been derived from the properties of the individual components.

Persistence and degradability

Assessment biodegradation and elimination (H₂O)

Poorly biodegradable.

Elimination information

Poorly biodegradable.

Bioaccumulative potential

Assessment bioaccumulation potential

Does not significantly accumulate in organisms.

Mobility in soil

Assessment transport between environmental compartments

Adsorption to solid soil phase is not expected.

Additional Information

Other ecological advice

This product has not been tested. Do not discharge product into the environment without control.

13. Disposal considerations

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Waste disposal of substance:

Incinerate or dispose of in a licensed facility. Do not discharge substance/product into sewer system.

Container disposal:

DRUMS:

Steel drums must be emptied and can be sent to a licensed drum reconditioner for reuse, a scrap metal dealer or an approved landfill. Do not attempt to refill or clean containers since residue is difficult to remove. Under no circumstances should empty drums be burned or cut open with gas or electric torch as toxic decomposition products may be liberated. Do not reuse empty containers.

14. Transport Information

Land transport

USDOT Not classified as a dangerous good under transport regulations.

Sea transport

IMDG Not classified as a dangerous good under transport regulations.

Air transport

IATA/ICAO Not classified as a dangerous good under transport regulations.

15. Regulatory Information

Federal Regulations

Registration status:

Chemical TSCA, US Released / Listed

EPCRA 311/312 (Hazard categories): Acute; Chronic

NFPA Hazard codes:

Health: 2 Fire: 1 Reactivity: 1 Special:

HMIS III rating

Health: 2[□] Flammability: 1 Physical hazard:1

16. Other Information

SDS Prepared by:

JACKCRETE, LLC

SDS Prepared on: 10/11/16

JACKCRETE is a registered trademark of JACKCRETE, LLC

IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED
HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE. IT IS PROVIDED

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FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU MAKE TESTS TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA, AND INFORMATION FURNISHED BY OUR COMPANY HEREUNDER ARE GIVEN GRATIS AND WE ASSUME NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.

END OF DATA SHEET

JACKCRETE 220-D Series

CONCRETE LIFTING SYSTEM

PRODUCT DESCRIPTION:

JACKCRETE 220-D is a nominal 2.2 pcf free-rise density, plural-component, synthetically-blown, all PMDI based low density spray polyurethane foam system designed for light duty soil stabilization, concrete lifting, and void filling. JACKCRETE 220-D is dispensed using 1/1 by volume ratio equipment. This system is available in slow and regular speeds.

TYPICAL PROPERTIES**:

<u>As Supplied</u>	<u>B-side</u>	<u>A-side</u>
Appearance	Amber, transparent liquid	Brown, transparent liquid
Specific Gravity @ 70°F	1.17	1.23
Viscosity @ 70°F (cps)	500 - 800	200

<u>As Cured</u>	<u>Value</u>	<u>Test Method</u>
Mix Ratio (volume : volume)	1:1	
Density (pcf)	3.9 - 4.2	ASTM D 1622
Compressive Strength (psi)	75	ASTM D 1621
Tensile Strength (psi)	60 – 80	ASTM D 1623
Shear Strength (psi)	40 – 60	ASTM C 273
Closed Cell Content (%)	>90	ASTM D 6226
Water Absorption (lbs./ft^2)	<0.025	ASTM D 2842

** These physical property values are typical for this material as applied at our development facility under controlled conditions or statistical measurement. SPF performance and actual physical properties will vary with differences in application (i.e. ambient conditions, process equipment and settings, material throughput, etc). As a result, these published properties should be used as guidelines solely for the purpose of evaluation. Physical property specifications should be determined from actual production material.

The above data was collected from samples prepared using the following equipment configuration:

- Graco E-30 proportioner set at 1:1 volume ratio with 250 ft of heated delivery hose
- GX-7 spray-gun configured with a #22 mix module and JACKCRETE PCD Body with 3-1/2" injection port
- Process temperature settings: Isocyanate 130°F; Resin 130°F; Hose 130°F
- Process pressure: 1000 psig minimum during dispensation

Every job site and set of ambient /substrate conditions are different; therefore, one set of process settings may not work for every situation. It is the responsibility of the applicator to evaluate the on-site conditions then choose the appropriate SPF reactivity and process settings.

GENERAL INFORMATION:

JACKCRETE 220-D is a technically advanced SPF system intended for use by qualified contractors trained in the processing and application of SPF lifting systems as well as the plural-component polyurethane dispensing equipment required to do so. Contractors and applicators must comply with all applicable and appropriate storage, handling, processing and safety guidelines. JACKCRETE, LLC technical service personnel should be consulted in all cases where application conditions are questionable.

FORMULATION SPEED:

The JACKCRETE 220-D SPF lifting system is available in several reactivity "grades": S (Slow) has a suggested ambient temperature range of 40-80 degrees Fahrenheit, R (Regular) has a suggested ambient temperature range of 70-100 degrees Fahrenheit. These temperatures are meant as general suggestions only. Ultimately, the experience of the applicator should determine which reactivity grade is best suited for any specific project and ambient conditions. Please contact your JACKCRETE, LLC representative with any questions or for more specific assistance.



RECOMMENDATIONS:

JACKCRETE 220-D is designed for an application rate up to 4 inches maximum. Once installed material has cooled it is possible to add additional applications in order to increase the overall installed thickness of SPF.

In addition to reading and understanding the MSDS, all contractors and applicators must use appropriate respiratory, skin and eye Personal Protective Equipment (PPE) when handling and processing polyurethane chemical systems. Personnel should review the relevant technical documents published by Spray Polyurethane Foam Alliance (SPFA) and Center for the Polyurethanes Industry (CPI).

CAUTIONS:

JACKCRETE 220-D is NOT designed for use as an INTERIOR insulation system.

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

As with all Polyurethane foam systems, improper application techniques such as: excessive thickness of SPF, injecting into or under rising SPF, and off-ratio material can significantly degrade the physical properties. Potential results of improperly installed SPF include: dangerously high reaction temperatures that may result in fire and offensive odors that may or may not dissipate. Improperly installed SPF must be removed and replaced with properly installed materials.

LARGE MASSES of excess SPF should be removed to an outside safe area cut into smaller pieces and allowed to cool before discarding into any trash receptacle.

SPF is combustible. High-intensity heat sources such as welding or cutting torches must not be used in contact with or in close proximity to JACKCRETE 220-D or any polyurethane foam.

SHELF LIFE AND STORAGE CONDITIONS:

JACKCRETE 220-D has a shelf life of approximately three months from the date of manufacture when stored in original, unopened containers at 65-75°F. As with all industrial chemicals, this material should be stored in a covered, secure location and never in direct sunlight. Storage temperatures above the recommended range will shorten shelf life. Storage temperatures above the recommended range may also result in elevated headspace pressure within packages.

LIMITED WARRANTY INFORMATION – PLEASE READ CAREFULLY:

The information herein is to assist customers in determining whether our products are suitable for their applications. Our products are only intended for sale to industrial and commercial customers. Customer assumes full responsibility for quality control, testing and determination of suitability of products for its intended application or use. We warrant that our products will meet our written liquid component specifications. We make no other warranty of any kind, either express or implied, by fact or law, including any warranty of merchantability of fitness for a particular purpose. Our total liability and customers' exclusive remedy for all proven claims is replacement of nonconforming product and in no event shall we be liable for any other damages, including without limitation special, incidental, punitive, or consequential damages.



Safety Data Sheet

JACKCRETE® 660-H

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1. Identification

Product identifier used on the label

JACKCRETE* 660-H

Recommended use of the chemical and restriction on use

Recommended use*: polyurethane component; industrial chemicals
Suitable for use in industrial sector: polymers industry; chemical industry

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Details of the supplier of the safety data sheet

Company:

JACKCRETE, LLC
705 Industry Drive
Hampton, VA 23661, USA

Telephone: +1 757 827-7822

Emergency telephone number

CHEMTREC: 1-800-424-9300

Other means of identification

Chemical family: Resin
Synonyms: URETHANE SYSTEM RESIN COMPONENT

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

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JACKCRETE® 660-H

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Classification of the product

Eye Dam./Irrit.	2A	Serious eye damage/eye irritation
Skin Corr./Irrit.	2	Skin corrosion/irritation
STOT RE	2 (oral)	Specific target organ toxicity —single exposure

Label elements

Pictogram:



Signal Word:
Warning

Hazard Statement:

H319	Causes serious eye irritation.
H315	Causes skin irritation.
H373	May cause damage to organs (Olfactory organs) through prolonged or repeated exposure (inhalation).

Precautionary Statements (Prevention):

P280	Wear protective gloves.
P260	Do not breathe dust/gas/mist/vapors.
P264	Wash with plenty of water and soap thoroughly after handling.

Precautionary Statements (Response):

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314	Get medical advice/attention if you feel unwell.
P303 + P362	IF ON SKIN (or hair): Wash with plenty of soap and water.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.

Precautionary Statements (Disposal):

P501	Dispose of contents/container to hazardous or special waste collection point.
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Hazards not otherwise classified

No specific dangers known, if the regulations/notes for storage and handling are considered.

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

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<u>CAS Number</u>	<u>Weight %</u>	<u>Chemical Name</u>
Proprietary	< 4.0%	Tertiary Amine Catalyst

4. First-Aid Measures

Description of first-aid measures

General advice:

Remove contaminated clothing.

If inhaled:

Remove the affected individual into fresh air and keep the person calm. Seek medical attention.

If on skin:

Wash affected areas thoroughly with soap and water.

If in eyes:

In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. Consult an eye specialist.

If swallowed:

Rinse mouth and then drink plenty of water. Do not induce vomiting. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms are eye irritation and skin irritation upon contact. Repeated inhalation of high concentrations may cause irritation, tremors, and/or confusion as well as cardiac sensitization.

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment: Treat according to symptoms (decontamination, vital functions)
No known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:

Water spray, dry powder, carbon dioxide, foam

Special hazards arising from the substance or mixture

Hazards during fire-fighting:

No particular hazard known

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Advice for Fire fighters

Protective equipment for firefighting:

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. Accidental release measures

Further accidental release measures:

High risk of slipping due to leakage/spillage of product.

Personal precautions, protective equipment and emergency procedures

Clear area. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.

Environmental precautions

Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up

Spills should be contained, solidified, and placed in appropriate containers for disposal

7. Handling and Storage

Precautions for safe handling

Ensure thorough ventilation of stores and work areas. Avoid aerosol formation. Protect against moisture. Relieve pressure slowly when opening storage container.

Protection against fire and explosion:

No explosion proofing necessary.

Conditions for safe storage, including any incompatibilities

Segregate from foods and animal feeds. Segregate from acids. Segregate from oxidants.

Suitable materials for containers: Carbon Steel (Iron), High Density Polyethylene (HDPE), Low Density Polyethylene (LDPE), Stainless Steel 1.4301 (V2)

Further information on storage conditions: No special precautions necessary.

Storage stability:

Storage temperature: 65 - 80 °F

The stated upper storage temperature is noted for health and safety in the workplace. The storage temperature will affect the handling characteristics and quality of the product. Recommended storage temperatures for specific products are reported in our Technical Bulletins.

8. Exposure Controls/Personal Protection

Components with occupational exposure limits

Tertiary Amine Catalyst

TWA

None Established

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Advice on system design:

Provide local exhaust ventilation.

Personal protective equipment

Respiratory protection:

Wear NIOSH-certified (or equivalent) organic vapor respirator as needed.

Hand protection:

Chemical resistant protective gloves should be worn.

Eye protection:

Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body protection:

Standard work clothes and shoes.

General safety and hygiene measures:

Wear protective clothing as necessary to prevent contact. Contaminated equipment or clothing should be cleaned after each use or disposed of.

9. Physical and Chemical Properties

Form:	Liquid.
Odor:	Faint ammonia odor
Odor threshold:	Not applicable
Color:	Light brown
pH value:	Not applicable
Freezing point:	0 °C
Boiling point:	> 100 °C
Sublimation point:	No applicable information available.
Flash point:	> 20 °C (Closed Cup)
Flammability:	Not flammable
Lower explosion limit:	For liquids not relevant for classification and labelling. The lower explosion point may be 5 - 15 °C below the flash point.
Upper explosion limit:	For liquids not relevant for classification and labelling.
Autoignition:	> 250 °C
Vapor pressure:	not applicable
Density:	9.8 - 10.2 lb/USg (25 °C)
Relative density:	Not applicable
Vapor density:	Not applicable
Partitioning coefficient n-octanol/water (log Pow):	Unspecified
Self-ignition temperature:	Not self-igniting
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.
Viscosity, dynamic:	600 - 900 mPa.s (20 °C)
Viscosity, kinematic:	No applicable information available.
Solubility in water:	Soluble.
Solubility (quantitative):	No applicable information available.
Solubility (qualitative):	No applicable information available.

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Molar mass:	360 g/mol
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.
Other Information:	If necessary, information on other physical and chemical parameters is indicated in this section.

10. Stability and Reactivity

Reactivity

No hazardous reactions if stored and handled as prescribed.

Corrosion to metals:

No corrosive effect on metal.

Oxidizing properties:

Not an oxidizer.

Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

The product is stable if stored and handled as prescribed/indicated.

Conditions to avoid

Temperatures below 0°C.

Incompatible materials

Acids, oxidizing agents, isocyanates and other chemicals that react with hydroxyl group.

Hazardous decomposition products

Decomposition products:

Hazardous decomposition products: carbon monoxide, carbon dioxide, nitrogen oxide, hydrogen cyanide, gases/vapors.

Thermal decomposition:

No decomposition if stored and handled as prescribed/indicated.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

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Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: No known acute effects.

Oral

No applicable information available.

Inhalation

No applicable information available.

Dermal

No applicable information available.

Assessment other acute effects

Assessment of STOT single:

Based on the available information there is no specific organ toxicity to be expected after a single exposure based on expert judgment.

Irritation / corrosion

Assessment of irritating effects: Irritating to eyes and skin.

Sensitization

Assessment of sensitization: The chemical structure does not suggest a sensitizing effect. No applicable information available.

Aspiration Hazard

No aspiration hazard expected.

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: Repeated exposure may affect certain organs.

Genetic toxicity

Assessment of mutagenicity: The chemical structure does not suggest a specific alert for such an effect.

No applicable information available.

Carcinogenicity

Assessment of carcinogenicity: The chemical structure does not suggest a specific alert for such an effect. No applicable information available.

Reproductive toxicity

Assessment of reproduction toxicity: The chemical structure does not suggest a specific alert for such an effect. No applicable information available.

Teratogenicity

Assessment of teratogenicity: The chemical structure does not suggest a specific alert for such an effect.

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No applicable information available.

Other Information

The product has not been tested. The statement has been derived from the properties of the individual components.

Symptoms of Exposure

The most important known symptoms and effects are described in the labeling (see section 2) and/or in section 11.

Medical conditions aggravated by overexposure

Data available do not indicate that there are medical conditions that are generally recognized as being aggravated by exposure to this substance/product.

12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms. The product has not been tested. The statement has been derived from the properties of the individual components.

Persistence and degradability

Assessment biodegradation and elimination (H₂O)

Poorly biodegradable.

Elimination information

Poorly biodegradable.

Bioaccumulative potential

Assessment bioaccumulation potential

Does not significantly accumulate in organisms.

Mobility in soil

Assessment transport between environmental compartments

Adsorption to solid soil phase is not expected.

Additional Information

Other ecological advice

This product has not been tested. Do not discharge product into the environment without control.

13. Disposal considerations

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Waste disposal of substance:

Incinerate or dispose of in a licensed facility. Do not discharge substance/product into sewer system.

Container disposal:

DRUMS:

Steel drums must be emptied and can be sent to a licensed drum reconditioner for reuse, a scrap metal dealer or an approved landfill. Do not attempt to refill or clean containers since residue is difficult to remove. Under no circumstances should empty drums be burned or cut open with gas or electric torch as toxic decomposition products may be liberated. Do not reuse empty containers.

14. Transport Information

Land transport

USDOT Not classified as a dangerous good under transport regulations.

Sea transport

IMDG Not classified as a dangerous good under transport regulations.

Air transport

IATA/ICAO Not classified as a dangerous good under transport regulations.

15. Regulatory Information

Federal Regulations

Registration status:

Chemical TSCA, US Released / Listed

EPCRA 311/312 (Hazard categories): Acute; Chronic

NFPA Hazard codes:

Health: 2 Fire: 1 Reactivity: 1 Special:

HMIS III rating

Health: 2[□] Flammability: 1 Physical hazard:1

16. Other Information

SDS Prepared by:

JACKCRETE, LLC

SDS Prepared on: 10/11/16

JACKCRETE is a registered trademark of JACKCRETE, LLC

IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED
HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE. IT IS PROVIDED

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END OF DATA SHEET

JACKCRETE 660-H Series

CONCRETE LIFTING SYSTEM

PRODUCT DESCRIPTION:

JACKCRETE 660-H is a HYDROPHOBIC nominal 4.0 pcf free-rise density, plural-component, synthetically-blown, all PMDI based medium-density spray polyurethane foam system designed for heavy duty soil stabilization, roadway repair, concrete lifting, and void filling. JACKCRETE 660-H is dispensed using 1/1 by volume ratio equipment. This system is available in slow and regular speeds.

TYPICAL PROPERTIES**:

<u>As Supplied</u>	<u>B-side</u>	<u>A-side</u>
Appearance	Amber, transparent liquid	Brown, transparent liquid
Specific Gravity @ 70°F	1.21	1.23
Viscosity @ 70°F (cps)	500 - 800	200

<u>As Cured</u>	<u>Value</u>	<u>Test Method</u>
Mix Ratio (volume : volume)	1:1	
Density, in-place (pcf)	6.0 - 6.2	ASTM D 1622
Compressive Strength (psi)	100	ASTM D 1621
Tensile Strength (psi)	340	ASTM D 1623
Shear Strength (psi)	60	ASTM C 273
Closed Cell Content (%)	>90	ASTM D 6226
Water Absorption (lbs./ft ²)	<0.05	ASTM D 2842

** These physical property values are typical for this material as applied at our development facility under controlled conditions or statistical measurement. SPF performance and actual physical properties will vary with differences in application (i.e. ambient conditions, process equipment and settings, material throughput, etc). As a result, these published properties should be used as guidelines solely for the purpose of evaluation. Physical property specifications should be determined from actual production material.

The above data was collected from samples prepared using the following equipment configuration:

- Graco E-30 proportioner set at 1:1 volume ratio with 250 ft of heated delivery hose
- GX-7 spray-gun configured with a #22 mix module and JACKCRETE PCD Body with 3-1/2" injection port
- Process temperature settings: Isocyanate 130°F; Resin 130°F; Hose 130°F
- Process pressure: 1000 psig minimum during dispensation

Every job site and set of ambient /substrate conditions are different; therefore, one set of process settings may not work for every situation. It is the responsibility of the applicator to evaluate the on-site conditions then choose the appropriate SPF reactivity and process settings.

GENERAL INFORMATION:

JACKCRETE 660-H is a technically advanced SPF system intended for use by qualified contractors trained in the processing and application of SPF lifting systems as well as the plural-component polyurethane dispensing equipment required to do so. Contractors and applicators must comply with all applicable and appropriate storage, handling, processing and safety guidelines. JACKCRETE, LLC technical service personnel should be consulted in all cases where application conditions are questionable.

FORMULATION SPEED:

The JACKCRETE 660-H SPF lifting system is available in several reactivity "grades": S (Slow) has a suggested ambient temperature range of 40-80 degrees Fahrenheit, R (Regular) has a suggested ambient temperature range of 70-100 degrees Fahrenheit. These temperatures are meant as general suggestions only. Ultimately, the experience of the applicator should determine which reactivity grade is best suited for any specific project and ambient conditions. Please contact your JACKCRETE, LLC representative with any questions or for more specific assistance.



RECOMMENDATIONS:

JACKCRETE 660-H is designed for an application rate up to 4 inches maximum. Once installed material has cooled it is possible to add additional applications in order to increase the overall installed thickness of SPF.

In addition to reading and understanding the MSDS, all contractors and applicators must use appropriate respiratory, skin and eye Personal Protective Equipment (PPE) when handling and processing polyurethane chemical systems. Personnel should review the relevant technical documents published by Spray Polyurethane Foam Alliance (SPFA) and Center for the Polyurethanes Industry (CPI).

CAUTIONS:

JACKCRETE 660-H is NOT designed for use as an INTERIOR insulation system.

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

As with all Polyurethane foam systems, improper application techniques such as: excessive thickness of SPF, injecting into or under rising SPF, and off-ratio material can significantly degrade the physical properties. Potential results of improperly installed SPF include: dangerously high reaction temperatures that may result in fire and offensive odors that may or may not dissipate. Improperly installed SPF must be removed and replaced with properly installed materials.

LARGE MASSES of excess SPF should be removed to an outside safe area cut into smaller pieces and allowed to cool before discarding into any trash receptacle.

SPF is combustible. High-intensity heat sources such as welding or cutting torches must not be used in contact with or in close proximity to JACKCRETE 660-H or any polyurethane foam.

SHELF LIFE AND STORAGE CONDITIONS:

JACKCRETE 660-H has a shelf life of approximately three months from the date of manufacture when stored in original, unopened containers at 65-75°F. As with all industrial chemicals, this material should be stored in a covered, secure location and never in direct sunlight. Storage temperatures above the recommended range will shorten shelf life. Storage temperatures above the recommended range may also result in elevated headspace pressure within packages.

LIMITED WARRANTY INFORMATION – PLEASE READ CAREFULLY:

The information herein is to assist customers in determining whether our products are suitable for their applications. Our products are only intended for sale to industrial and commercial customers. Customer assumes full responsibility for quality control, testing and determination of suitability of products for its intended application or use. We warrant that our products will meet our written liquid component specifications. We make no other warranty of any kind, either express or implied, by fact or law, including any warranty of merchantability of fitness for a particular purpose. Our total liability and customers' exclusive remedy for all proven claims is replacement of nonconforming product and in no event shall we be liable for any other damages, including without limitation special, incidental, punitive, or consequential damages.