

## Safety Data Sheet

### Section 1: Identification

#### Product identifier

#### Product Name • Water Based Asphalt Emulsion

**Synonyms** • Polymer Modified Cationic Asphalt Emulsion - Microsurfacing Asphalt Emulsion; Polymer Modified CQS-1H, CRS-2H, CSS-1H, CSS-1HL, CQS-1HP; Polymer Modified Slurry Seal Emulsion; TTT-2

**Product Code** • SDS number: HMC-1005

#### Relevant identified uses of the substance or mixture and uses advised against

**Recommended use** • Various paving applications

#### Details of the supplier of the safety data sheet

**Manufacturer** • Hudson Materials Company  
1615 Sholar Avenue  
Chattanooga, TN 37406  
United States  
www.hudsonmaterials.com  
hmc@hudsoncc.com

**Telephone (General)** • (423) 624-2631

#### Emergency telephone number

**Manufacturer** • 1-800-633-8253 PERS

### Section 2: Hazard Identification

#### United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

#### Classification of the substance or mixture

**OSHA HCS 2012** • Skin Irritation 2  
Eye Irritation 2  
Carcinogenicity 2

#### Label elements

OSHA HCS 2012

#### WARNING



**Hazard statements** • Causes skin irritation  
Causes serious eye irritation  
Suspected of causing cancer.

**Precautionary statements**

- Prevention** • Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Wash thoroughly after handling.  
Wear protective gloves/protective clothing/eye protection/face protection.

- Response** • If on skin: Wash with plenty of water .  
Take off contaminated clothing and wash before reuse.  
Specific treatment, see supplemental first aid information.  
If skin irritation occurs: Get medical advice/attention.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
If eye irritation persists: Get medical advice/attention.  
IF exposed or concerned: Get medical advice/attention.

- Storage/Disposal** • Store locked up.  
Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

## Other hazards

- OSHA HCS 2012** • Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

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## Section 3 - Composition/Information on Ingredients

### Substances

- Material does not meet the criteria of a substance.

### Mixtures

Composition					
Chemical Name	Identifiers	%	LD50/LC50	Classifications According to Regulation/Directive	Comments
Asphalt	CAS:8052-42-4	>= 60%	Ingestion/Oral-Rat LD50 • >5000 mg/kg Inhalation-Rat LC50 • >94.4 mg/m <sup>3</sup>	OSHA HCS 2012: Carc. 2	NDA
Hydrogen sulfide	CAS:7783-06-4	< 1%	Inhalation-Rat LC50 • 444 ppm 4 Hour(s)	OSHA HCS 2012: Flam. Gas 1; Press. Gas - Comp.; Eye Irrit. 2; Acute Tox. 2 (inh); STOT SE 3: Resp. Irrit;	NDA
Styrene polymer with 1,3-butadiene	CAS:9003-55-8	< 2.8%	NDA	OSHA HCS 2012: Eye Irrit. 2	NDA
Cationic Emulsifying Agent	NDA	< 2.5%	NDA	OSHA HCS 2012: Skin Corr. 1C; Eye Dam. 1	NDA
Ethanol	CAS:64-17-5	< 0.1%	Ingestion/Oral-Rat LD50 • 7060 mg/kg Inhalation-Rat LC50 • 5900 mg/m <sup>3</sup> 6 Hour(s)	OSHA HCS 2012: Exposure limits	NDA
1,3-Butadiene	CAS:106-99-0	< 0.0002%	Inhalation-Rat LC50 • 128000 ppm 4 Hour(s) Ingestion/Oral-Rat LD50 • 5480 mg/kg	OSHA HCS 2012: Exposure limits	NDA
Water	CAS:7732-18-5	Balance	Ingestion/Oral-Rat LD50 • >90 mL/kg	OSHA HCS 2012: Not Classified	NDA

## Section 4: First-Aid Measures

## Description of first aid measures

- Inhalation** • Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.
- Skin** • Removal of solidified molten material from skin requires medical assistance. Remove and isolate contaminated clothing. Clean exposed skin with soap or mild detergent and large amounts of water. If irritation develops and persists, get medical attention.
- Eye** • In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.
- Ingestion** • Do NOT induce vomiting. Get medical attention immediately.

## Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

## Indication of any immediate medical attention and special treatment needed

- Notes to Physician** • All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

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## Section 5: Fire-Fighting Measures

### Extinguishing media

- Suitable Extinguishing Media** • LARGE FIRE: Water spray, fog or regular foam.  
SMALL FIRES: Dry chemical, CO<sub>2</sub>, water spray or regular foam.

- Unsuitable Extinguishing Media** • No data available.

### Special hazards arising from the substance or mixture

- Unusual Fire and Explosion Hazards** • Containers may explode when heated.  
Some may be transported hot.  
Hydrogen sulfide (H<sub>2</sub>S) and other hazardous gases/vapors may evolve and collect in the headspace of storage tanks or other enclosed vessels, and create an explosive, toxic, or oxygen deficient atmosphere.

- Hazardous Combustion Products** • No data available.

### Advice for firefighters

- Structural firefighters' protective clothing will only provide limited protection. Wear positive pressure self-contained breathing apparatus (SCBA).

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## Section 6 - Accidental Release Measures

### Personal precautions, protective equipment and emergency procedures

- Personal Precautions** • Ventilate enclosed areas. Do not walk through spilled material. Wear appropriate personal protective equipment, avoid direct contact. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Emergency Procedures** • ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep unauthorized personnel away. Stay upwind.

### Environmental precautions

- Avoid release to the environment.

### Methods and material for containment and cleaning up

- Containment/Clean-up Measures** • Stop leak if you can do it without risk.  
SMALL SPILLS: Take up with sand or other non-combustible absorbent material and place into containers for later disposal.  
LARGE SPILLS: Dike far ahead of liquid spill for later disposal.

## Section 7 - Handling and Storage

### Precautions for safe handling

**Handling** • Use only with adequate ventilation. Wear appropriate personal protective equipment, avoid direct contact. Avoid breathing mist, vapours and/or spray. Avoid contact with skin, eyes, and clothing. Tripping accidents have occurred because of asphalt buildup on bottoms of shoes and boots; buildup should be removed regularly to prevent such accidents. Do not use solvents or thinners to clean footwear. Do not attempt to clean empty containers. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode and cause injury or death. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

### Conditions for safe storage, including any incompatibilities

**Storage** • Store in a cool/low-temperature, well-ventilated place away from heat and ignition sources. Storage containers should be vented to prevent over-pressurization and vacuum.

## Section 8 - Exposure Controls/Personal Protection

### Control parameters

Exposure Limits/Guidelines				
	Result	ACGIH	NIOSH	OSHA
1,3-Butadiene (106-99-0)	STELs	Not established	Not established	5 ppm STEL (see 29 CFR 1910.1051)
	TWAs	2 ppm TWA	Not established	1 ppm TWA (listed under Butadiene)
Ethanol (64-17-5)	TWAs	Not established	1000 ppm TWA; 1900 mg/m <sup>3</sup> TWA	1000 ppm TWA; 1900 mg/m <sup>3</sup> TWA
	STELs	1000 ppm STEL	Not established	Not established
Hydrogen sulfide (7783-06-4)	Ceilings	Not established	10 ppm Ceiling (10 min); 15 mg/m <sup>3</sup> Ceiling (10 min)	20 ppm Ceiling
	STELs	5 ppm STEL	Not established	Not established
	TWAs	1 ppm TWA	Not established	Not established
Asphalt (8052-42-4)	TWAs	0.5 mg/m <sup>3</sup> TWA (fume, inhalable fraction, as benzene soluble aerosol)	Not established	Not established
	Ceilings	Not established	5 mg/m <sup>3</sup> Ceiling (fume, 15 min)	Not established

### Exposure controls

#### Engineering

#### Measures/Controls

- 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.

#### Personal Protective Equipment

#### Respiratory

- In case of insufficient ventilation, wear suitable respiratory equipment. Follow the OSHA respirator regulations found in 29 CFR 1910.134. Use a NIOSH/MSHA approved respirator if exposure limits are exceeded or symptoms are experienced.

#### Eye/Face

- Wear protective eyewear (goggles, face shield, or safety glasses).

#### Skin/Body

- Wear appropriate gloves. Wear long sleeves and/or protective coveralls.

#### Environmental

#### Exposure Controls

- Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice for site management and disposal of waste.

#### Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene

NIOSH = National Institute of Occupational Safety and Health

OSHA = Occupational Safety and Health Administration

STEL = Short Term Exposure Limits are based on 15-minute exposures

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

## Section 9 - Physical and Chemical Properties

### Information on Physical and Chemical Properties

Material Description			
Physical Form	Liquid	Appearance/Description	Dark brown liquid with a mild odor.
Color	Dark brown.	Odor	Mild
Odor Threshold	No data available		
General Properties			
Boiling Point	212 F(100 C)	Melting Point/Freezing Point	No data available
Decomposition Temperature	No data available	pH	No data available
Specific Gravity/Relative Density	1 to 1.03 Water=1	Water Solubility	Appreciable 10 to 99 %
Viscosity	No data available		
Volatility			
Vapor Pressure	No data available	Vapor Density	No data available
Evaporation Rate	Similar to water	Volatiles (Wt.)	No data available
Volatiles (Vol.)	No data available		
Flammability			
Flash Point	> 450 F(> 232.2222 C) COC (Cleveland Open Cup) Asphalt Cement	UEL	No data available
LEL	No data available	Autoignition	No data available
Flammability (solid, gas)	No data available		
Environmental			
Octanol/Water Partition coefficient	No data available		

## Section 10: Stability and Reactivity

### Reactivity

- No dangerous reaction known under conditions of normal use.

### Chemical stability

- Stable

### Possibility of hazardous reactions

- Hazardous polymerization will not occur.

### Conditions to avoid

- Excess heat. Incompatible materials.

### Incompatible materials

- Acids may react with alkalis in product. Strong oxidizers may react with hydrocarbons. Contact with fluorine may cause burning or explosion. This product could cause a foam-over or explosion if contact occurs with hot liquid asphalt or other molten material in a container.

### Hazardous decomposition products

- Carbon monoxide and other compounds (such as amines, nitrogen dioxide, sulfur dioxide, ozone, hydrogen sulfide, and various hydrocarbons) may be released by thermal decomposition. If hydrogen sulfide is present, the flammable limits can be from 4.3 to 45.5% by volume, and its presence may promote the formation of pyrophoric (spontaneously igniting) iron compounds.

## Section 11 - Toxicological Information

### Information on toxicological effects

Components

Asphalt (>= 60%)	8052-42-4	<b>Acute Toxicity:</b> Ingestion/Oral-Rat LD50 • >5000 mg/kg; <i>Gastrointestinal:Hypermotility, diarrhea</i> ; Inhalation-Rat LC50 • >94.4 mg/m <sup>3</sup> ; <b>Multi-dose Toxicity:</b> Inhalation-Human TDLo • 10 mg/m <sup>3</sup> 5.5 Year(s)-Intermittent; <i>Sense Organs and Special Senses:Eye:Conjunctive irritation</i> ; <i>Lungs, Thorax, or Respiration:Cough</i> ; <i>Gastrointestinal:Changes in structure or function of salivary glands</i> ; Inhalation-Human TDLo • 10 mg/m <sup>3</sup> 9 Year(s)-Intermittent; <i>Lungs, Thorax, or Respiration:Other changes</i> ; <i>Gastrointestinal:Changes in structure or function of salivary glands</i> ; <i>Biochemical:Metabolism (intermediary):Effect on inflammation or mediation of inflammation</i> ; <b>Mutagen:</b> Micronucleus test • Unreported Route-Rat • Other Cell Type • 57.8 µg/L
Styrene polymer with 1,3-butadiene (< 2.8%)	9003-55-8	<b>Irritation:</b> Eye-Rabbit • 500 mg 24 Hour(s) • Mild irritation

GHS Properties	Classification
Respiratory sensitization	OSHA HCS 2012•No data available
Serious eye damage/Irritation	OSHA HCS 2012•Eye Irritation 2
Acute toxicity	OSHA HCS 2012•No data available
Aspiration Hazard	OSHA HCS 2012•No data available
Carcinogenicity	OSHA HCS 2012•Carcinogenicity 2
Skin corrosion/Irritation	OSHA HCS 2012•Skin Irritation 2
Skin sensitization	OSHA HCS 2012•No data available
STOT-RE	OSHA HCS 2012•No data available
STOT-SE	OSHA HCS 2012•No data available
Toxicity for Reproduction	OSHA HCS 2012•No data available
Germ Cell Mutagenicity	OSHA HCS 2012•No data available

## Potential Health Effects

### Inhalation

**Acute (Immediate)** • Direct contact can cause thermal burns, and may produce irritation.

**Chronic (Delayed)** • No data available.

### Skin

**Acute (Immediate)** • Causes skin irritation. Direct contact can cause thermal burns, and may produce irritation.

**Chronic (Delayed)** • No data available.

### Eye

**Acute (Immediate)** • Causes serious eye irritation. Direct contact can cause thermal burns, and may produce irritation.

**Chronic (Delayed)** • No data available.

### Ingestion

**Acute (Immediate)** • Asphalt has low systemic toxicity when ingested. However, chewing asphalt has caused gastrointestinal effects.

**Chronic (Delayed)** • No data available

**Carcinogenic Effects** • Repeated and prolonged exposure may cause cancer. The International Agency for Research on Cancer (IARC) has determined that there is inadequate evidence that asphalt alone is carcinogenic to humans. Further, IARC has determined that there is inadequate evidence of carcinogenicity for undiluted air-refined asphalts in laboratory animals. However, IARC states that there is sufficient

evidence that extracts (asphalt dissolved in hydrocarbon solvents) are carcinogenic to laboratory animals, and sufficient evidence for the carcinogenicity of untreated vacuum distillates in laboratory animals and humans. IARC has determined that there is limited evidence of carcinogenicity for undiluted steam-refined asphalts in laboratory animals. Limited evidence means that a causal relationship is possible; however, other explanations such as chance, bias, or confounding factors cannot adequately be excluded.

Carcinogenic Effects				
	CAS	OSHA	IARC	NTP
1,3-Butadiene	106-99-0	Specifically Regulated Carcinogen	Group 1-Carcinogenic	Known Human Carcinogen
Ethanol	64-17-5	Not Listed	Group 1-Carcinogenic	Not Listed
Asphalt	8052-42-4	Not Listed	Group 2B-Possible Carcinogen	Not Listed

**Key to abbreviations**

LC = Lethal Concentration

LD = Lethal Dose

TD = Toxic Dose

## Section 12 - Ecological Information

### Toxicity

- Non-mandatory section - information about this substance not complied for this reason.

### Persistence and degradability

- Non-mandatory section - information about this substance not complied for this reason.

### Bioaccumulative potential

- Non-mandatory section - information about this substance not complied for this reason.

### Mobility in Soil

- Non-mandatory section - information about this substance not complied for this reason.

### Other adverse effects

- Non-mandatory section - information about this substance not complied for this reason.

## Section 13 - Disposal Considerations

### Waste treatment methods

**Product waste** • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

**Packaging waste** • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

## Section 14 - Transport Information

	UN number	UN proper shipping name	Transport hazard class(es)	Packing group	Environmental hazards
DOT	NDA	Not Regulated	NDA	NDA	NDA

**Special precautions for user**

- None specified.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** • No data available

## Section 15 - Regulatory Information

## Safety, health and environmental regulations/legislation specific for the substance or mixture

### SARA Hazard Classifications

• Acute, Chronic

Inventory		
Component	CAS	TSCA
1,3-Butadiene	106-99-0	Yes
Asphalt	8052-42-4	Yes
Ethanol	64-17-5	Yes
Hydrogen sulfide	7783-06-4	Yes
Styrene polymer with 1,3-butadiene	9003-55-8	Yes

## United States

### Labor

#### U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

•1,3-Butadiene	106-99-0	Not Listed
•Styrene polymer with 1,3-butadiene	9003-55-8	Not Listed
•Asphalt	8052-42-4	Not Listed
•Ethanol	64-17-5	Not Listed
•Hydrogen sulfide	7783-06-4	1500 lb TQ

#### U.S. - OSHA - Specifically Regulated Chemicals

•1,3-Butadiene	106-99-0	5 ppm STEL (See 29 CFR 1910.1051, 15 min); 0.5 ppm Action Level; 1 ppm TWA
•Styrene polymer with 1,3-butadiene	9003-55-8	Not Listed
•Asphalt	8052-42-4	Not Listed
•Ethanol	64-17-5	Not Listed
•Hydrogen sulfide	7783-06-4	Not Listed

### Environment

#### U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

•1,3-Butadiene	106-99-0	
•Styrene polymer with 1,3-butadiene	9003-55-8	Not Listed
•Asphalt	8052-42-4	Not Listed
•Ethanol	64-17-5	Not Listed
•Hydrogen sulfide	7783-06-4	Not Listed

#### U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

•1,3-Butadiene	106-99-0	10 lb final RQ; 4.54 kg final RQ
•Styrene polymer with 1,3-butadiene	9003-55-8	Not Listed
•Asphalt	8052-42-4	Not Listed
•Ethanol	64-17-5	Not Listed
•Hydrogen sulfide	7783-06-4	100 lb final RQ; 45.4 kg final RQ

#### U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

•1,3-Butadiene	106-99-0	Not Listed
•Styrene polymer with 1,3-butadiene	9003-55-8	Not Listed
•Asphalt	8052-42-4	Not Listed
•Ethanol	64-17-5	Not Listed
•Hydrogen sulfide	7783-06-4	Not Listed

#### U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

•1,3-Butadiene	106-99-0	Not Listed
•Styrene polymer with 1,3-butadiene	9003-55-8	Not Listed
•Asphalt	8052-42-4	Not Listed
•Ethanol	64-17-5	Not Listed
•Hydrogen sulfide	7783-06-4	100 lb EPCRA RQ

#### U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

•1,3-Butadiene	106-99-0	Not Listed
•Styrene polymer with 1,3-butadiene	9003-55-8	Not Listed
•Asphalt	8052-42-4	Not Listed
•Ethanol	64-17-5	Not Listed
•Hydrogen sulfide	7783-06-4	500 lb TPQ



### U.S. - CERCLA/SARA - Section 313 - Emission Reporting

•1,3-Butadiene	106-99-0	0.1 % de minimis concentration
•Styrene polymer with 1,3-butadiene	9003-55-8	Not Listed
•Asphalt	8052-42-4	Not Listed
•Ethanol	64-17-5	Not Listed
•Hydrogen sulfide	7783-06-4	1.0 % de minimis concentration

### U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

•1,3-Butadiene	106-99-0	Not Listed
•Styrene polymer with 1,3-butadiene	9003-55-8	Not Listed
•Asphalt	8052-42-4	Not Listed
•Ethanol	64-17-5	Not Listed
•Hydrogen sulfide	7783-06-4	Not Listed

## United States - California

### Environment

#### U.S. - California - Proposition 65 - Carcinogens List

•1,3-Butadiene	106-99-0	carcinogen, initial date 4/1/88
•Styrene polymer with 1,3-butadiene	9003-55-8	Not Listed
•Asphalt	8052-42-4	Not Listed
•Ethanol	64-17-5	carcinogen, initial date 4/29/11 (in alcoholic beverages)
•Hydrogen sulfide	7783-06-4	Not Listed

#### U.S. - California - Proposition 65 - Developmental Toxicity

•1,3-Butadiene	106-99-0	developmental toxicity, initial date 4/16/04
•Styrene polymer with 1,3-butadiene	9003-55-8	Not Listed
•Asphalt	8052-42-4	Not Listed
•Ethanol	64-17-5	developmental toxicity, initial date 10/1/87 (in alcoholic beverages)
•Hydrogen sulfide	7783-06-4	Not Listed

#### U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

•1,3-Butadiene	106-99-0	Not Listed
•Styrene polymer with 1,3-butadiene	9003-55-8	Not Listed
•Asphalt	8052-42-4	Not Listed
•Ethanol	64-17-5	Not Listed
•Hydrogen sulfide	7783-06-4	Not Listed

#### U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

•1,3-Butadiene	106-99-0	0.4 µg/day NSRL
•Styrene polymer with 1,3-butadiene	9003-55-8	Not Listed
•Asphalt	8052-42-4	Not Listed
•Ethanol	64-17-5	Not Listed
•Hydrogen sulfide	7783-06-4	Not Listed

#### U.S. - California - Proposition 65 - Reproductive Toxicity - Female

•1,3-Butadiene	106-99-0	female reproductive toxicity, initial date 4/16/04
•Styrene polymer with 1,3-butadiene	9003-55-8	Not Listed
•Asphalt	8052-42-4	Not Listed
•Ethanol	64-17-5	Not Listed
•Hydrogen sulfide	7783-06-4	Not Listed

#### U.S. - California - Proposition 65 - Reproductive Toxicity - Male

•1,3-Butadiene	106-99-0	Not Listed
•Styrene polymer with 1,3-butadiene	9003-55-8	Not Listed
•Asphalt	8052-42-4	Not Listed
•Ethanol	64-17-5	Not Listed
•Hydrogen sulfide	7783-06-4	Not Listed

## Other Information

- WARNING: This product contains a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

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## Section 16 - Other Information

- Revision Date** • 17/September/2015
- Preparation Date** • 01/July/2005
- Disclaimer/Statement of Liability** • Hudson Materials Company believes the information contained herein is accurate; however, Hudson Materials Company makes no guarantees with respect to such accuracy and assumes no liability in connection with the use of the information contained herein by any party. The provision of the information contained herein is not intended to be and should not be construed as legal advice or as ensuring compliance with any federal, state, or local laws and regulations. Any party using this product should review all such laws, rules, or regulations prior to use. **NO WARRANTY IS MADE, EXPRESS OR IMPLIED, OR MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE.**

**Key to abbreviations**

NDA = No Data Available

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