Material Safety Data Sheet

Section 1 - Chemical Product and Company Identification	
Product Name	**Orbijet Asphaltene Dispersant/Tank Cleaner - Concentrate ORB2100C**
Chemical Family	Asphaltene Sludge Dispersant
Chemical Formula	Proprietary Mixture
Manufacturer/Supplier Address	Orbijet, Inc. 15200 Middlebrook Drive; Suite E Houston, Texas 77058 - USA
Telephone Number	+1 281.218.9400
Emergency Assistance	**+1 281.218.9400**

Section 2 - Composition Information on Ingredients				
Hazardous Ingredients	**CAS #**	**Wt.%**	**OSHA, PEL****	**ACGIH, TLV****
Heavy Aromatic Naphtha	64742-94-5	40-70	100 ppm	100 ppm
Cyclic Amine	872-50-4	25 – 50	Not established	10 ppm***
Alkyl-aryl Sulphonate	71549-79-6	25 – 50	Not established	Not established
Alkyl-aryl derivatives	68584-22-5	1 -10	Not Established	Not Established

** **Consult local authorities for acceptable exposure limits**
*** **WEEL-TWA 8 hour exposure**

Section 3 - Hazards Identification	
Primary routes of exposure: Eyes, Skin, Inhalation, Ingestion	
Eye Contact	Vapor can be irritating, but will not injure eye tissue. Liquid can cause severe irritation, reddening, swelling and corneal burns.
Skin Contact	Frequent or prolonged contact may irritate the skin. Low toxicity. Brief contact with the liquid will not result in significant irritation unless vaporization is prevented. Dermal exposure causes Central nervous system effects in laboratory animals.
Inhalation	High vapor/aerosol concentrations (greater than approximately 1000ppm) are irritating to the eyes and the respiratory tract. Negligible hazard at normal temperatures (up to 38 degrees Celsius). Prolonged exposure to high vapor concentrations can headache dizziness, nausea, blurred vision and central nervous system depression.
Ingestion	Small amounts of liquid aspirated into the respiratory system during ingestion or from vomiting may cause mild to severe pulmonary injury and possibly death. Ingestion of high amounts can headache dizziness, nausea, blurred vision and central nervous system depression

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Section 4 - First Aid Measures	
Eye Contact	Flush eyes with large amounts of water for at least 30 minutes or until all of the product is washed out. If irritation persists, get medical attention. Take care not to rinse contaminated water into the unaffected eye.
Skin Contact	Flush with large amounts of water for at least 20 minutes until all the chemical is removed. Use soap if available. Remove severely contaminated clothing (including shoes) and launder before reuse.
Inhalation	In emergencies, use proper respiratory protection to immediately remove the affected victim from exposure. Administer artificial respiration if breathing has stopped. Keep at rest. If the heart has stopped, trained medical personnel should begin cardio pulmonary resuscitation. Call for prompt medical attention.
Ingestion	If swallowed, DO NOT INDUCE VOMITING. I f vomiting should occur naturally the victim should lean or be held forward to reduce the risk of aspiration. Administer artificial respiration if breathing has stopped. Keep at rest. If the heart has stopped, trained medical personnel should begin cardio pulmonary resuscitation. Get prompt medical attention.

Section 5 - Fire Fighting Measures	
Flash Point	63°C TCC
Lower Flame Limit	Not established
Higher Flame Limit	Not established
Autoignition Temperature	Approximately 443 °C
Flammability Classification Mixtures	Combustible Liquid; may release vapors that form flammable mixtures at or above the flash point. Toxic gases will form upon combustion.
Flammability Properties	Can be ignited under almost all normal circumstances
Extinguishing Media	Use water spray to cool fire exposed surfaces and to protect personnel. Shut off fuel to fire if possible to do so without hazard. If leak or spill has not ignited use water spray to disperse the vapors. Use foam, or dry chemical to extinguish fire.
Special Firefighting Procedures	Respiratory and eye protection required for firefighting personnel. Avoid spraying water directly into storage containers due to boil-over.
Hazardous Combustion Products	Fumes, smoke and carbon monoxide, oxides of sulfur. Oxides of Nitrogen. Hydrogen cyanide.
Unusual fire & Explosion Hazards	N/D

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Section 6 - Accidental Release Measures	
Land Spills	Eliminate source of ignition. Keep public away. Prevent additional discharge of material, if possible to do so without hazard. Prevent spills from entering sewers, watercourses or low areas. Contain spilled liquid with sand or earth. Do Not use combustible materials such as sawdust. Recover by pumping (use an explosion proof motor or hand pump), or by using a suitable absorbent.
Water Spills	Remove from surface by skimming or with suitable adsorbents. If allowed by local authorities and environmental agencies, sinking and/or suitable dispersants may be used in unconfined waters.

Section 7 - Handling and Storage	
Handling	Open containers with care. Wash thoroughly after handling. Avoid contact with eyes and skin.
Storage	Keep Container tightly closed. Store in a cool, well ventilated place away from incompatible materials. Do Not store near an open flame, heat, or other sources of ignition. Protect material from direct sunlight. Material will accumulate static charges, which may cause an electrical spark (ignition source). DO NOT pressurize, cut, heat, or weld containers. Use proper grounding. Comply with federal, state and local regulation in handling and dispensing of this type of solvent mixture.

Section 8 - Exposure Controls, Personal Protective Equipment	
Engineering Controls	The use of local exhaust ventilation is recommended to control emissions near the source. Laboratory samples should be handled in a fume hood. Provide mechanical ventilation of confined spaces. Use explosion-proof ventilation equipment.
Eye Protection	AIHA Workplace Environmental Exposure Level (WEEL) for cyclic amine:10 ppm, 8- hour, TWA Where prolonged and/or repeated eye contact is likely to occur, wear safety glasses with side shields. Where eye contact is unlikely, but may occur as a result of short and/or periodic exposures, wear safety glasses with side shields.
Skin Protection	Chemically resistant gloves are recommended.
Respiratory Protection	Where concentrations in air may exceed the occupational exposure limits given in the Hazardous Ingredients Section, and where engineering, work practices or other means of exposure reduction are not adequate, approved respirators may be necessary to prevent overexposure by inhalation.

Section 9 - Physical and Chemical Properties	
Physical Form	Liquid
Color	Dark amber
Odor	Mild Sweet odor.
pH	3.2 -3.5 2% aqueous solution
Vapor Pressure	<0.4kPa at 38 °C

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Vapor Density	(air=1) >1
Boiling Point	Initial 162-242 °C
Melting Freezing Point	-35 °C
Solubility in Water (77°F)	Some components are water soluble (15% of blend if water miscible)
Specific Gravity	0.92 at 15.5 °C
Viscosity	~2 cSt at 25 °C
Volatility	95 %
Evaporation Rate	0.75
Coefficient of Water/Oil Distribution	N/D
Odor Threshold	N/D

Section 10 - Stability and Reactivity	
Chemical Stability	Stable
Conditions to Avoid	Temperatures above ambient
Incompatible Materials	Strong Oxidizing agents, concentrated nitric and sulfuric acids, halogen, and molten sulfur.
Decomposition Products	None
Hazardous Polymerization	Will not occur.
Conditions of Reactivity	N/D

Section 11 - Toxicological Information			
	LD50 Oral	LD50 Dermal	LC50
Heavy Aromatic Naphtha	Rat 3200 mg/kg	Rabbit 1800 mg/kg	>590 mg/m3 rat 4 hr
Cyclic Amine	Rat 3500 mg/kg	Rat 4000-8000 mg/kg	5.1 mg/litre 4 hour rat
Alkyl aryl sulphonate	N/D	N/D	N/D
Carcinogenicity	N/D	Reproductive Effects	N/D
Sensitization	N/D	Teratogenicity	Cyclic amine has causedteratogenic effects in the presence of maternal and fetotoxic effects in the absence of maternal toxicity in laboratory animals.
Irritancy	Some Ingredients are eye and skin irritants	Mutagenicity	N/D
Toxicological Synergistics	N/D	Other Data	Ingestion of the cyclic amine has produced kidney effects in laboratory animals

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Section 12 - Ecological Information			
Environmental Effects		N/D	
BOD	N/D	COD	N/D

Section 13 - Disposal Considerations	
TCPL	No component is regulated
RCRA	If discarded in its purchased form this product would be a hazardous waste either by listing or characteristic. However, under RCRA, it is the responsibility of the product user to determine, at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

Section 14 - Transportation Information	
Shipping Name	Not Regulated
Hazard Class	Not Regulated
P.I.N. Number	Not Regulated
Packaging	Not Regulated
Product Label	ORB2100C
WHMIS Classification	B3, D2.B
Listed on DSL	Yes

Section 15 - Regulatory Information	
WHMIS Classification	B3, D2.B Where concentrations in air may exceed the occupational exposure limits given in the Hazardous Ingredients Section, and where engineering, work practices or other means of exposure reduction are not adequate, approved respirators may be necessary to prevent overexposure by inhalation
Listed on DSL	Yes

Section 16 - Other Information	
Date Issued	October 2013
Supercedes	June 2011
Prepared By	Tom McCartney

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