

# Hondo

Reference ID

Origin: California, USA

The sample analyzed by ESD was identified as 'Hondo', but is more similar to Hondo Monterey than to Hondo Blend.

**API Gravity**

19.6

ESD 91

**Equation(s) for Predicting Evaporation**

$$\%Ev = (1.49 + 0.045T)\ln(t)$$

Where %Ev = weight percent evaporated; T = surface temperature (°C); t = time (minutes)

ESD 96

**Sulphur (weight %)**

Evaporation

(volume %)

0

4.30

ESD 93

17

4.60

32

4.80

**Water Content (weight %)**

Evaporation

(volume %)

0

1.5

ESD 98

17

0.1

32

&lt;0.1

**Flash Point (°C)**

Evaporation

(volume %)

0

-5

ESD 91

17

71

ESD 92

32

&gt;90

**Density (g/mL)**

Evaporation

(volume %)

0

Temperature

(°C)

0

0.9461

ESD 91

15

0.9356

17

0

0.9780

15

0.9674

32

0

0.9976

15

0.9881

**Pour Point (°C)**

Evaporation

(volume %)

0

-15

ESD 91

17

3

32

21

**Dynamic Viscosity (mPa·s or cP)**

Evaporation

(volume %)

0

Temperature

(°C)

0

3507

ESD 91

15

735

17

0

110500 (a)

172600 (b)

15

9583

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## Dynamic Viscosity (mPa·s or cP)

Evaporation  
(volume %)

Temperature  
(°C)

32

0

83080000

(c)

ESD 91

15

449700

Shear rate = (a) 10/s; (b) 1/s; (c) 0.001/s

## Emulsion Formation

Evaporation  
(volume %)

0

Visual stability

stable

ESD 98

Viscosity (mPa·s)

110000

Complex modulus (Pa)

920

Water content (wt %)

81

17

Visual stability

stable

Viscosity (mPa·s)

190000

Complex modulus (Pa)

1300

Water content (wt %)

66

32

Visual stability

unstable

## Chemical Dispersibility (volume %)

Evaporation  
(volume %)

0

Corexit 9500

8

ESD 97

Corexit 9527

5

ESD 91

Dasic LTS

0

Enersperse 700

4

ESD 96

17

Corexit 9500

6

ESD 98

Corexit 9527

0

ESD 96

Dasic LTS

0

Enersperse 700

0

32

Corexit 9500

4

ESD 98

Corexit 9527

0

ESD 96

Dasic LTS

0

Enersperse 700

0

## Hydrocarbon Groups (weight %)

Evaporation  
(volume %)

0

Saturates

33

ESD 94

Aromatics

31

Resins

24

Asphaltenes

12

Waxes

4

ESD 98

17

Saturates

27

ESD 96

Aromatics

33

Resins

29

Asphaltenes

12

Waxes

4

ESD 98

32

Saturates

27

ESD 96

Aromatics

28

Resins

32

Asphaltenes

13

Waxes

4

ESD 98

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## Adhesion (g/m<sup>2</sup>)

Evaporation

(volume %)

0

79

SD = 6

ESD 96

17

124

SD = 12

32

437

SD = 40

## Volatile Organic Compounds (ppm)

Evaporation

(volume %)

0

Benzene

870

ESD 94

Toluene

2200

Ethylbenzene

1190

Xylenes

2570

C3-benzenes

4130

Total BTEX

6830

Total VOCs

10960

17

Benzene

40

Toluene

110

Ethylbenzene

340

Xylenes

850

C3-benzenes

2500

Total BTEX

1340

Total VOCs

3840

32

Benzene

0

Toluene

0

Ethylbenzene

0

Xylenes

0

C3-benzenes

0

Total BTEX

0

Total VOCs

0

## Surface Tension (mN/m or dynes/cm)

Evaporation

(volume %)

0

Temperature

(°C)

0

30.6

ESD 91

15

29.2

17

0

NM

15

30.3

32

0

NM

15

NM

## Oil/Salt Water Interfacial Tension (mN/m or dynes/cm)

Evaporation

(volume %)

0

Temperature

(°C)

0

26.6

ESD 91

15

15.8

17

0

NM

15

22.8

32

0

NM

15

NM

## Oil/Fresh Water Interfacial Tension (mN/m or

Evaporation

(volume %)

0

Temperature

(°C)

0

28.3

ESD 91

15

22.5

17

0

NM

# Hondo

Reference ID

## Oil/Fresh Water Interfacial Tension (mN/m or

Evaporation  
(volume %)

Temperature  
(°C)

17

15

29.8

ESD 91

32

0

NM

15

NM

## Boiling Point Distribution (weight %)

Evaporation  
(volume %)

Boiling Point  
(°C)

Weight %

0

40

2

ESD 96

60

3

80

5

100

6

120

6

140

8

160

10

180

12

200

14

250

20

300

26

350

33

400

41

450

48

500

56

550

63

600

70

650

77

700

83

17

140

1

160

2

180

3

200

5

250

11

300

18

350

27

400

35

450

44

500

52

550

61

600

68

650

76

700

83

32

250

2

300

9

350

19

400

28

450

38

500

48

550

57

600

65

650

74

700

81

# Hondo

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Boiling Point Distribution (°C)			Reference ID	
Evaporation (volume %)	Weight %	Boiling Point (°C)		
0	5		ESD 96	
	10			
	15			
	20			
	25			
	30			
	35			
	40			
	45			ESD 94
	50			
	55			
	60			ESD 96
	65			
	70			
	75			
	80			
	85			
17	5			
	10			
	15			
	20			
	25			
	30			
	35			
	40			
	45			
	50			
	55			
	60			
	65			
	70			
	75			
	80			
	85			
32	5			
	10			
	15			
	20			
	25			
	30			
	35			
	40			
	45			
	50			
	55			
	60			
	65			
	70			
	75			
	80			
	85			

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## Metals (ppm)

Evaporation  
(volume %)

0

Barium 0.3  
Chromium <1.5  
Copper <0.6  
Iron 30.5  
Lead <4  
Magnesium 5.4  
Molybdenum 2.3  
Nickel 75.0  
Titanium 1.6  
Vanadium 196.0

Cao 92

17

Zinc 0.5  
Barium 0.3  
Chromium 2.3  
Copper 0.7  
Iron 3.3  
Lead <  
Magnesium 5.6  
Molybdenum <0.6  
Nickel 80.4  
Titanium 2.0  
Vanadium 218.0

32

Zinc <0.6  
Aluminum 7.8  
Barium 0.3  
Cadmium <0.5  
Calcium 99.5  
Chromium <1.5  
Cobalt <1  
Copper 1.5  
Iron 3.0  
Lead <  
Magnesium 9.1  
Manganese <0.3  
Mercury <15  
Molybdenum 0.6  
Nickel 88.0  
Selenium <15  
Strontium 0.9  
Tin <15  
Titanium 2.0  
Vanadium 228.0  
Zinc <0.6

## Aqueous Solubility (mg/L)

Room temperature

21

(a)

ESD 91

(a) fresh water

## Acute Toxicity of Water Soluble Fraction (mg/L)

Test Organism

48h LC50

Daphnia magna

12

(a)

Harris 94

(a) results based on GC purge-and-trap analysis