



DEF

Diesel Exhaust Fluid

Features & Benefits

- API Certified
- Meets ISO 22241-1:2019
- Nontoxic, nonpolluting, nonhazardous and non-flammable solution
- Reduces harmful emissions by up to 90%
- Increases fuel efficiency

Typical Results

Test	Units	Typical	Min	Max
Urea Content	% (m/m)	32.5	31.8	33.2
Density at 20°C	kg/L	1.0899	1.087	1.093
Refractive Index at 20°C	-	1.3830	1.3814	1.3843
Alkalinity (as Ammonia)	% (m/m)	<0.1	-	0.2
Biuret	% (m/m)	0.20	-	0.3
Aldehydes	mg/kg	<0.5	-	5
Insoluble matter	mg/kg	<0.1	-	20
Phosphates	mg/kg	<0.05	-	0.5
Calcium	mg/kg	<0.1	-	0.5
Iron	mg/kg	<0.1	-	0.5
Copper	mg/kg	<0.1	-	0.2
Zinc	mg/kg	<0.1	-	0.2
Chromium	mg/kg	<0.1	-	0.2
Nickel	mg/kg	<0.1	-	0.2
Aluminum	mg/kg	<0.1	-	0.5
Magnesium	mg/kg	<0.1	-	0.5
Sodium	mg/kg	<0.1	-	0.5
Potassium	mg/kg	<0.1	-	0.5
Identity (FTIR)		Identical to reference	-	-

Sizes & Order Codes

Size	Code
3.78 L / 1 US gal	F0102526
9.46 L / 2.5 US gal	F0102510
208 L / 54.9 US gal	F0102550
1250 L / 330 US gal	F0102565
Bulk	B0101801



IRVING DEF (Diesel Exhaust Fluid) is a 32.5% (AUS 32) Aqueous Urea Solution produced with high purity urea mixed with demineralized water and was formulated to meet the specifications of ISO 22241-1:2019 for reducing NOx emissions in diesel engines.

IRVING DEF transforms harmful nitrogen oxide (NOx) emissions from diesel powered vehicles into harmless water vapor and nitrogen.

IRVING DEF is produced to exceed the stringent regulations of the 2010 EPA (Environmental Protection Agency) Clean Air Act requirements mandating the reduction of harmful Nitrogen Oxide and particulate matter emissions by up to 90% while helping to increase fuel efficiency. When it comes to DEF, quality and purity are what really counts. SCR (Selective Catalytic Reduction) systems are the preferred technology to achieve EPA mandated reductions, DEF contaminants or impurities can cause this system to malfunction or fail. It is critically important to maintain the standards set forth by the ISO 22241-1 program.

IRVING DEF is certified as a Diesel Exhaust Fluid by the American Petroleum Institute.



www.irvingoil.com/lubricants
1.800.574.5823

Supporting data available to demonstrate acceptable performance. Check with your sales associate for latest product approvals. Please note, these are typical performance indicators and can change without notice.

This data sheet replaces previous versions prior to 08.03.19.

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ISO 22241-3:2017 - Shelf Life as a Function of Storage Temperature

Constant Ambient Storage Temperature (°C)	Minimum Shelf Life (Months)
≤10	36
≤25	18
≤30 ^a	12
≤35	6
>35	Significant loss of shelf life: check every batch before use

NOTE: The main factors taken into account to define the shelf life in this table are the ambient storage temperature and the initial alkalinity of AUS 32. The difference in evaporation between vented and non-vented storage containers is an additional factor.

^a To Prevent decomposition of AUS 32, prolonged transportation or storage above 30 °C should be avoided.

Never store Irving DEF in direct sunlight.

Table Reference:

International Organization for Standardization. (2017). Diesel engines – NOx reduction agent AUS 32 – Part 3: Handling, transportation, and storage (ISO Standard No. 22241-3:2017). Retrieved from <https://www.iso.org/standard/66410.html>



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