

PRICES AT A GLANCE

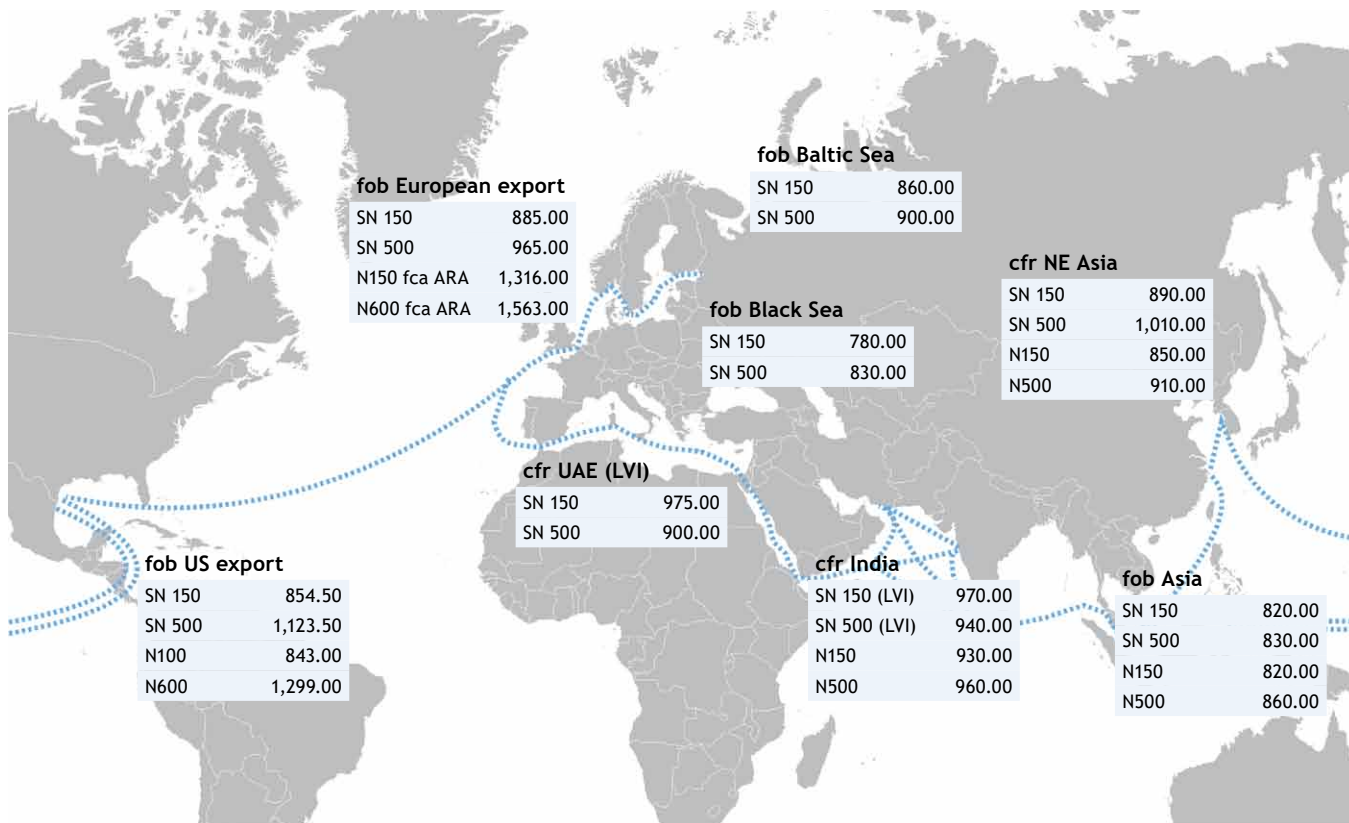
Asia-Pacific				\$/t
	Low	Mid	High	±
Group I				
SN 150 ex-tank Singapore	940	960.00	980	nc
SN 500 ex-tank Singapore	1,040	1,060.00	1,080	nc
Bright stock ex-tank Singapore	1,280	1,300.00	1,320	+40.00
SN 150 fob Asia	800	820.00	840	nc
SN 500 fob Asia	810	830.00	850	nc
Bright stock fob Asia	1,030	1,050.00	1,070	+40.00
Group II				
N150 ex-tank Singapore	980	1,000.00	1,020	-30.00
N500 ex-tank Singapore	1,030	1,050.00	1,070	-40.00
N150 fob Asia	800	820.00	840	nc
N500 fob Asia	840	860.00	880	nc
Northeast Asia				
	Low	Mid	High	±
Group I				
SN 150 cfr	870	890.00	910	nc
SN 500 cfr	990	1,010.00	1,030	nc
Bright stock cfr	1,090	1,110.00	1,130	+20.00
Group II				
N150 cfr	830	850.00	870	-20.00
N500 cfr	890	910.00	930	-10.00
India and UAE				
	Low	Mid	High	±
Group I				
SN 150 (LVI) cfr India	950	970.00	990	nc
SN 500 (LVI) cfr India	920	940.00	960	nc
Bright stock cfr India	1,150	1,170.00	1,190	+20.00
SN 150 (LVI) cfr UAE	955	975.00	995	nc
SN 500 (LVI) cfr UAE	880	900.00	920	nc
Group II				
N70 cfr India	910	930.00	950	nc
N150 cfr India	910	930.00	950	nc
N500 cfr India	940	960.00	980	nc
Group III				
4cst ex-tank UAE	1,490	1,510.00	1,530	+50.00
Russia and FSU				
	Low	Mid	High	±
Group I				
SN 150 fob Baltic Sea	840	860.00	880	nc
SN 500 fob Baltic Sea	880	900.00	920	nc
SN 150 fob Black Sea	760	780.00	800	nc
SN 500 fob Black Sea	810	830.00	850	nc

OVERVIEW

Global base oil prices are mixed. A persistent slowdown in demand and lingering surplus supplies continue to place downwards price pressure in Europe. Prices are steadier in Asia-Pacific on more balanced supply-demand fundamentals. US posted prices fell on soft demand even with restocking.

Europe				€/t	\$/t			
	Low	Mid	High	±	Low	Mid	High	±
Group I								
SN 150 fob domestic NWE					1,030	1,050.00	1,070	-30.00
SN 500 fob domestic NWE					1,120	1,140.00	1,160	-50.00
Bright stock fob domestic NWE					1,390	1,410.00	1,430	-50.00
SN 150 fob European export					865	885.00	905	-40.00
SN 500 fob European export					945	965.00	985	-55.00
Bright stock fob European export					1,180	1,200.00	1,220	-55.00
Group II								
N100 fca ARA	1,255	1,275.00	1,295	-55.00	1,321	1,342.00	1,363	-67.00
N150 fca ARA	1,230	1,250.00	1,270	-60.00	1,295	1,316.00	1,337	-72.00
N220 fca ARA	1,250	1,270.00	1,290	-30.00	1,316	1,337.00	1,358	-40.50
N600 fca ARA	1,465	1,485.00	1,505	-35.00	1,542	1,563.00	1,584	-47.50
Group III								
4cst fca NWE	1,970	2,000.00	2,030	nc	2,074	2,105.50	2,137	-13.50
6cst fca NWE	1,950	1,980.00	2,010	nc	2,053	2,084.50	2,116	-13.50
8cst fca NWE	1,900	1,930.00	1,960	nc	2,000	2,031.50	2,063	-13.50
Group III (a)								
4cst fca NWE	2,000	2,030.00	2,060	nc	2,105	2,136.50	2,168	-14.50
6cst fca NWE	2,000	2,030.00	2,060	nc	2,105	2,136.50	2,168	-14.50
8cst fca NWE	1,995	2,025.00	2,055	nc	2,100	2,131.50	2,163	-14.00
* Group III (a) refers to base oils which have Volkswagen Oil Quality Standard VW 504 00/507 00 certification								
Group III (b)								
4cst fca NWE	1,955	1,985.00	2,015	nc	2,058	2,089.50	2,121	-13.50
6cst fca NWE	1,920	1,950.00	1,980	nc	2,021	2,052.50	2,084	-13.50
8cst fca NWE	1,875	1,905.00	1,935	nc	1,974	2,005.50	2,037	-13.00
* Group III (b) refers to base oils which do not have Volkswagen Oil Quality Standard VW 504 00/507 00 certification								
US								
	Low	Mid	High	±				
Group I								
SN 150 fob					830	854.50	879	nc
SN 500 fob					1,100	1,123.50	1,147	nc
Bright stock fob					1,485	1,508.50	1,532	nc
Group II								
N100 fob					818	843.00	868	nc
N220 fob					820	844.50	869	nc
N600 fob					1,275	1,299.00	1,323	-75.00
Group III (domestic)								
4cst					1,969	1,994.00	2,019	-22.00
6cst					1,647	1,672.50	1,698	-22.50
8cst					1,632	1,657.00	1,682	-22.00
Naphthenic base oils								
Pale oil 60 fob					1,289	1,312.50	1,336	-6.00
Pale oil 100 fob					1,351	1,374.50	1,398	-6.00
Pale oil 500 fob					1,370	1,393.00	1,416	-9.00
Pale oil 2000 fob					1,378	1,401.00	1,424	-8.50

ARGUS MARKET MAP



Freight rates (US) *				
Route	1,000t	3,000t	5,000t	10,000t
US Gulf coast-Rotterdam	180	140	110	100
US Gulf coast-Brazil	165	145	120	110
US Gulf coast-Far East	188	128	108	97
US Gulf coast-India	195	160	130	110

* rates for December 2022, provided by SPI Marine (www.spimarine.com)

Freight rates (Asia-Pacific) *		
Route	3,000t	5,000t
Singapore-WC India	112.00	99.00
Singapore-Indonesia	56.00	45.50
Singapore-Thailand	57.50	47.00
Singapore-central China	73.00	66.00
Singapore-Japan	87.00	80.00
S.Korea-WC India	126.00	113.50
S.Korea-Singapore	90.00	80.00
S.Korea-Japan	30.00	23.00
S.Korea-central China	50.00	35.00
S.Korea-Taiwan	45.00	35.00
Japan-central China	70.00	50.00
S.Korea-US Gulf coast	229.00	209.00
S.Korea-Europe	251.00	240.00
Mideast Gulf-WC India	62.00	57.00
Mideast Gulf-central China	108.00	103.00

* rates based on one port loading/one port discharge

* rates provided at market close on 29 December by SPI Marine (www.spimarine.com)

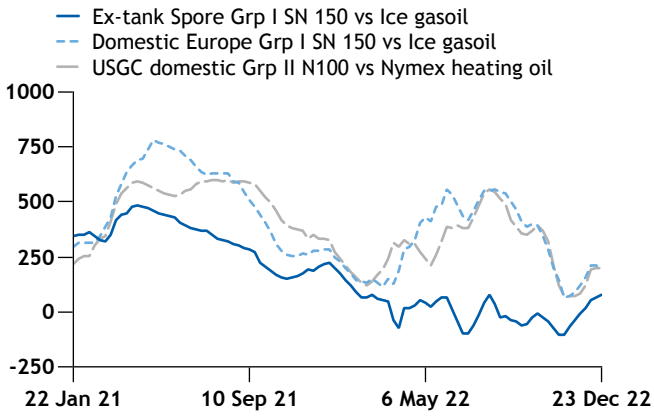
Arbitrage opportunities - Group I *				
Destination minus Origin Origin Destination	SN 150		SN 500	
	This week	Prior week	This week	Prior week
Fob Europe export - ex-tank Singapore	+75.00	+35.00	+95.00	+40.00
Fob Baltic - ex-tank Singapore	+100.00	+100.00	+160.00	+160.00
Fob Europe export - cfr UAE (LVI)	+90.00	+50.00	-65.00	-120.00
Fob Asia - domestic US	+337.50	+361.50	+681.00	+699.00
Fob Europe export - domestic US	+272.50	+256.50	+546.00	+509.00
Fob Black Sea - cfr India (LVI)	+190.00	+190.00	+110.00	+110.00
Fob Asia - cfr India (LVI)	+150.00	+150.00	+110.00	+110.00
Fob Baltic - domestic US	+297.50	+321.50	+611.00	+629.00
Fob Baltic - domestic NWE	+190.00	+220.00	+240.00	+290.00
Fob US export - ex-tank Singapore	+105.50	+105.50	-63.50	-63.50

Arbitrage opportunities - Group II *				
Destination minus Origin Origin Destination	N100/N150		N500/N600	
	This week	Prior week	This week	Prior week
Fob Asia - fca ARA	+496.00	+568.00	+703.00	+750.50
Fob Asia - domestic US	+333.00	+358.00	+847.00	+907.00
Fob Asia - cfr India	+110.00	+110.00	+100.00	+100.00
Fob US export - FCA ARA	+473.00	+545.00	+264.00	+236.50
Fob US export - cfr India	+87.00	+87.00	-339.00	-414.00
Fob US export - ex-tank Singapore	+157.00	+187.00	-249.00	-284.00

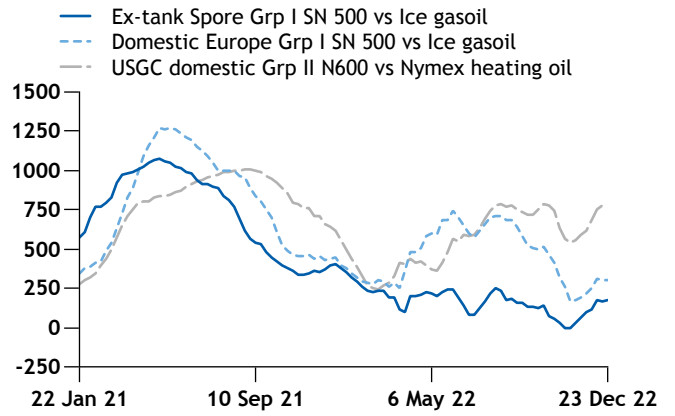
*The price-spread reflects the difference between the fob export (Origin) price and the domestic/cfr (Destination) price

FEEDSTOCK FUNDAMENTALS

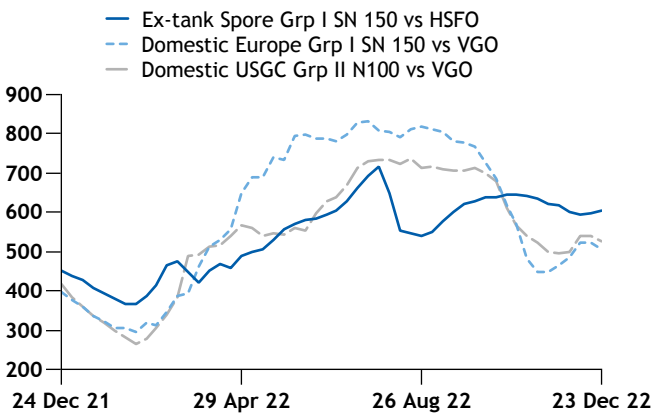
Global light-grade premium to 30-day gasoil \$/t



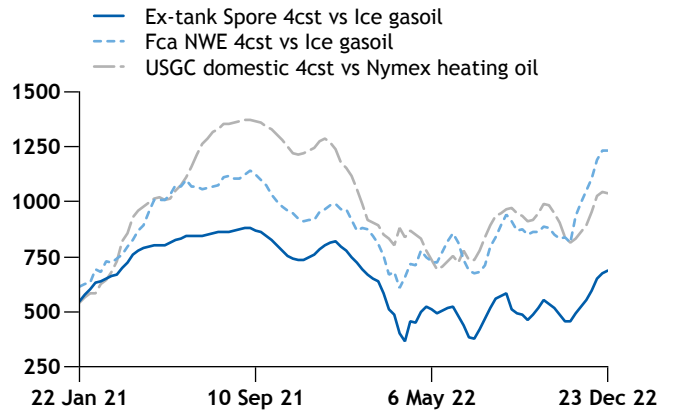
Global heavy-grade premium to 30-day gasoil \$/t



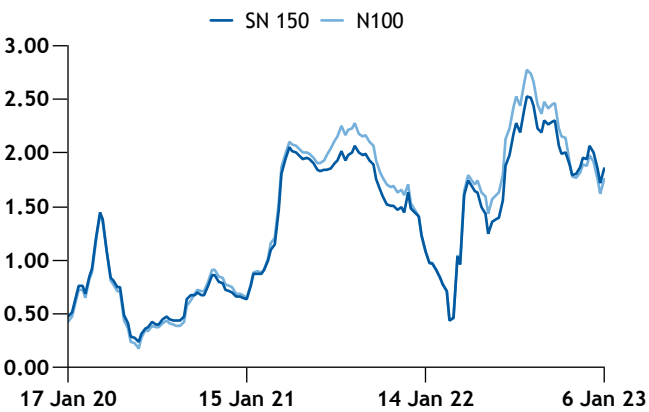
Global light grades vs 4-week feedstock prices \$/t



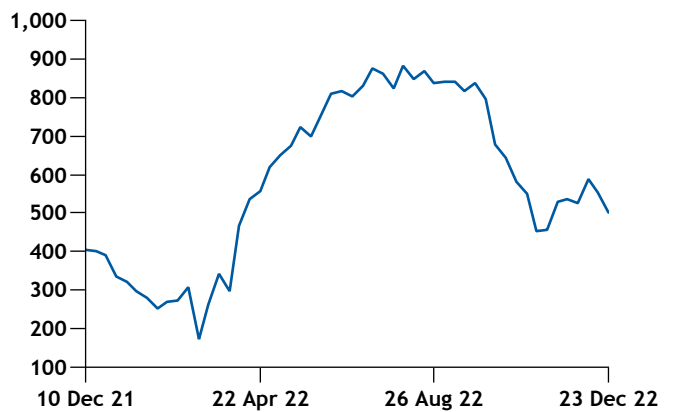
Global Grp III premium to 30-day gasoil \$/t



US domestic base oils premium to VGO 2% \$/USG



SN 150 fob domestic NWE premium to VGO 2% \$/t



ASIA-PACIFIC

- Bright stock supply rises
- Buying increases, remains cautious
- Interest increases in arbitrage shipments

Asia-Pacific base oil prices are mixed. Regional demand remains muted as many buyers remain cautious. Weaker supply-demand fundamentals are complicating moves by producers to raise their offers for some grades.

Group II prices have fallen on prolonged demand weakness and ample supply. Group I prices are steady, supported by more limited spot availability. Bright stock prices rose on the back of firmer demand and tighter supply.

Expectations rise for firmer fundamentals

Regional supply-demand dynamics remain sluggish. Chinese demand has picked up. But demand recovery has been capped as the pick-up in market activity remains uncertain ahead of the lunar new year festivities.

Increased domestic Chinese production has boosted supply of lower-priced base oil. The absence of Chinese demand from the global spot market has left regional producers with surplus stocks.

There are higher prospects of a more robust Chinese demand recovery after the lunar new year. There are prospects that increased Chinese demand will boost demand in southeast Asia.

These market participants expect prices to firm on tighter diesel supplies and rising gasoil prices. Some South Korean producers are also considering extending production run-cuts. Others are considering making steeper run-cuts. These moves to reduce production could help balance the supply-demand dynamics and support firmer prices.

Upcoming planned maintenance and moves to build and carry larger stocks ahead of these turnarounds will also help curb some producers' surplus availability.

Pertamina is scheduled for a month-long maintenance at its 400,000 t/yr Group I plant in Cilacap, Indonesia from mid-February. ExxonMobil Singapore will cut Group II output in March because of scheduled maintenance.

Some regional producers have lowered their prices despite expectations for firmer market dynamics in the coming months. Taiwan's Group II producer lowered its January domestic prices for N70 and N150 by 3.00 New Taiwan dollars/litre (US\$0.10/l). The producer has also cut its price for N500 by NT2.17/l.

Sufficient supplies limit leverage

Lubricant buyers remain cautious about securing larger volumes of finished products because of conflicting market

Group I	\$/t			
	Low	Mid	High	±
SN 150 ex-tank Singapore	940	960.00	980	nc
SN 500 ex-tank Singapore	1,040	1,060.00	1,080	nc
Bright stock ex-tank Singapore	1,280	1,300.00	1,320	+40.00
SN 150 fob Asia	800	820.00	840	nc
SN 500 fob Asia	810	830.00	850	nc
Bright stock fob Asia	1,030	1,050.00	1,070	+40.00

Group II	\$/t			
	Low	Mid	High	±
N150 ex-tank Singapore	980	1,000.00	1,020	-30.00
N500 ex-tank Singapore	1,030	1,050.00	1,070	-40.00
N150 fob Asia	800	820.00	840	nc
N500 fob Asia	840	860.00	880	nc

Group III	\$/t			
	Low	Mid	High	±
4cst ex-tank Singapore	1,540	1,570.00	1,600	nc
6cst ex-tank Singapore	1,565	1,595.00	1,625	nc
4cst fob Asia	1,520	1,540.00	1,560	nc
6cst fob Asia	1,490	1,510.00	1,530	nc
8cst fob Asia	1,220	1,240.00	1,260	nc

Ex-tank Singapore reference prices					\$/t
Group I			Group II		
SN 150	SN 600	Bright stock	N150	N500	
1,205.00	1,380.00	1,480.00	1,370.00	1,315.00	

Asia SN 500 forward prices	\$/t		
	Low	High	±
Jan 2023	820.00	840.00	nc
Feb 2023	807.55	827.55	-1.00
Mar 2023	787.50	807.50	-3.75
1Q 2023	805.05	825.05	-1.55
2Q 2023	747.80	767.80	-9.80

The price shows the implied forward-curve base oil price required to maintain its existing profit margin relative to Ice gasoil futures.

Refer to www.argusmedia.com for methodology

Asia SN 500 forward premium to gasoil	\$/t	
	Midpoint	±
Jan 2023	-53.20	+1.75
Feb 2023	-40.75	+2.75
Mar 2023	-20.70	+5.45
1Q 2023	-38.20	+3.35
2Q 2023	19.00	+11.55

The premium shows the implied forward-curve profitability of fob Asia SN 500 relative to Ice gasoil futures. Refer to www.argusmedia.com for methodology

ASIA-PACIFIC

signals as market movements remain volatile. Buyers have opted to maintain lower inventories and to draw down existing stocks. These buyers are securing smaller volumes on an as-needed basis as a buffer against any additional price drops.

Trading activity within the region remains limited. Trading typically picks up before base oil and lube consumption increases. Spot market activity could start to pick up in mid- to late-January as the market stabilises.

South Korean producers continue to offer competitive supplies prompting other producers in the region to offer similar discounts or seek other outlets. But these lower-priced offers have failed to attract much buying interest for now.

Surplus supplies target export outlets

Suppliers are increasingly looking to other markets to offload supplies. Several vessel enquiries have surfaced to move cargoes from Thailand, Taiwan and India to the Mideast Gulf.

Bright stock supplies remain tighter compared with other base oil grades. Demand for the heavy grade base stock typically picks up in January as industrial and marine activity revives.

Bright stock supplies of Thai-origin have been reported at around \$1,100/t fob Thailand and \$1,130/t cfr China. Indonesian bright stock for January-loading are negotiated at prices lower than Thai supplies.

Spot supplies from Japan remain tight. There is limited availability of heavy neutrals or bright stock in that market.

A vessel enquiry surfaced to move up to 7,000t of Group II base stocks from South Korea to South America.

Ex-tank prices fall

Flexibag prices from a South Korean producer decreased by \$20/t this week to around \$930/t cfr southeast Asia for N150 and \$970/t cfr southeast Asia for N500.

Taiwanese supplies in flexibags have been offered at \$940/t cfr southeast Asia for N150, and \$1,000/t cfr southeast Asia for N500.

Prices for Group II heavy grades fell by \$50 to \$1,070/t ex-tank Singapore. Bright stock of Japanese origin has been reported at \$1,265/t ex-tank Singapore.

Prices for Group I SN 150 of Chinese-origin remain steady at around \$950-960/t ex-tank Singapore.

Crude	\$/bl	
		±
Dubai crude front month	75.20	-3.27
SN 500 premium to Dubai crude	41.78	+3.27

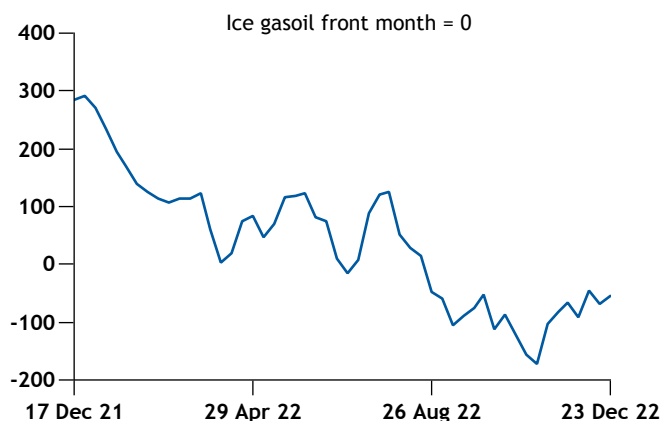
Oil products	\$/bl	
		±
Singapore 0.05% gasoil	108.00	-5.60
Gasoil premium to Dubai crude	33.44	-1.90
SN 500 premium to gasoil	8.98	+5.60

Vessel enquiries: Asia-Pacific				t
Loading port	Next port	B/L Date	Volume	
Singapore	Bangkok	06-10 Jan	Up to 3,650	
Rayong	Zhenjiang	1H Feb	3,000	
Mailiao	Hamriyah	20-30 Jan	3,000	
3 Ports S.Korea	Hamriyah	20 Jan-05 Feb	3,000	
Rayong	WCI+UAE	23 Jan	2,000	
Hong Kong	Hamriyah	1H Jan	3,000	
Thailand	Jebel Ali/WCI	End Jan	5,000	
South Korea	Ecuador	Mar	7,000	
Singapore	3 Ports Vietnam	08-14 Jan	Up to 6,170	
Onsan	Singapore	10-20 Jan	5,000	
Yanbu	Singapore	Mid Jan	8,200	
South Korea	Cuba	2J Jan-1H Feb	Up to 11,000	
Maoming	Singapore	Mid Jan	4,000	
South Korea	Mumbai	10-20 Jan	Up to 4,000	
Taiwan	Hamriyah	10-30 Jan	3,000	

Source: shipping agents, brokers

Asia SN 500 premium to Ice gasoil

\$/t



NORTHEAST ASIA

- Seasonal demand picks up
- Imported Group II prices extend drop
- Bright stock prices edge lower

Northeast Asian base oil prices remain under pressure from plentiful supplies despite a pick-up in demand ahead of the coming lunar new year holiday.

Lower diesel prices have incentivised some domestic Chinese refiners to tweak their operations to produce more base oil instead. This has increased base oil supply even as some plants remain shut because of continuing countrywide tax inspections.

A drop in regional base oil cargo prices in recent weeks coincided with lower domestic prices for the same grades. The gap between domestic and imported cargo prices has subsequently narrowed. This is delaying distributors' and importers' plans to replenish stocks.

Many distributors and blenders have depleted their stocks of imported supplies. Many need to replenish their inventories. The reluctance to replenish these stocks partly reflects uncertainties about China's economic recovery after Covid-19 lockdown restrictions were recently lifted in the country's key cities. Buyers also remain cautious amid concerns about exposure to any price corrections.

Many blenders have reduced their consumption of imported base oil. They are fulfilling their base oil requirements with lower-priced domestic supplies.

CNOOC Huizhou				Yn/t
Product	02-06 Jan	26-30 Dec		±%
N60	8,100	8,450		-4.1
N150	8,600	8,800		-2.3

Panjin Northern Asphalt				Yn/t
Product	02-06 Jan	26-30 Dec		±%
N100	8,606	8,306		3.6
N150	9,006	8,506		5.9
N500	9,606	8,706		10.3

China import price calculator *						
	Yn/t			\$/t		
	Low	High	±	Low	High	±
Group I (imported prices)						
SN 150	9,104	9,433	-110	1,323.00	1,371.00	+4.00
SN 500	10,092	10,422	-126	1,467.00	1,515.00	+4.00
Bright stock	10,917	11,246	+30	1,587.00	1,635.00	+28.00
Group II (imported prices)						
N150	8,774	9,104	-272	1,275.00	1,323.00	-20.00
N500	9,268	9,598	-196	1,347.00	1,395.00	-8.00

* inc. 6% customs duty, 13% VAT and 1,711.52 Yuan/t consumption tax.

Group I					\$/t
	Low	Mid	High		±
SN 150 cfr	870	890.00	910		nc
SN 500 cfr	990	1,010.00	1,030		nc
Bright stock cfr	1,090	1,110.00	1,130		+20.00

Group II					\$/t
	Low	Mid	High		±
N150 cfr	830	850.00	870		-20.00
N500 cfr	890	910.00	930		-10.00

Group III					\$/t
	Low	Mid	High		±
4cst cfr	1,305	1,330.00	1,355		nc
6cst cfr	1,230	1,255.00	1,280		nc
8cst cfr	990	1,015.00	1,040		nc

Ex-tank East China								
	Yn/t				\$/t			
	Low	Mid	High	±	Low	Mid	High	±
Group I								
Bright stock	10,950	11,050.00	11,150	-200.00	1,592	1,606.50	1,621	-4.50
Group II								
N150	9,300	9,400.00	9,500	-300.00	1,352	1,366.50	1,381	-22.50
N500	10,000	10,100.00	10,200	-100.00	1,453	1,468.00	1,483	+7.50
Group III								
4cst	13,250	13,350.00	13,450	nc	1,926	1,940.50	1,955	+29.00
6cst	12,200	12,300.00	12,400	nc	1,773	1,787.50	1,802	+26.00
8cst	9,700	9,800.00	9,900	nc	1,410	1,424.50	1,439	+21.00

China domestic prices						
	Yn/t			\$/t		
	Low	High	±	Low	High	±
Group I, SN 150						
Northeast						
Daqing	8,400	8,500	nc	1,221.00	1,235.00	+18.00
Dalian	8,800	8,900	-300	1,279.00	1,294.00	-23.50
North						
Yanshan	8,400	8,500	nc	1,221.00	1,235.00	+18.00
South						
Maoming	8,700	8,800	-700	1,265.00	1,279.00	-81.00
Group I, SN 400						
Northeast						
Fushun	8,500	8,600	nc	1,235.00	1,250.00	+18.50
Dalian	8,800	8,900	-300	1,279.00	1,294.00	-23.50
South						
Maoming	8,500	8,600	nc	1,235.00	1,250.00	+18.50
Group II, N150						
East						
Gaoqiao	8,500	8,600	nc	1,235.00	1,250.00	+18.50
South						
Huizhou	8,500	8,600	-300	1,235.00	1,250.00	-24.50

INDIA

- Producers target higher prices
- Ample supply deters stockbuilding
- Arbitrage opportunities remain limited

Indian base oil prices are mostly steady. Buyers have continued to target steady prices because of weak demand and sufficient supply. Some producers sought to raise their offers in response to higher diesel prices.

Buyers continue to be cautious about committing to large shipments because of continuing price uncertainty. Many buyers have decided to secure supplies on an as-needed basis. Domestic supplies are ample. Domestic refiners are striving to meet higher domestic production goals.

There are fewer concerns about the growing Covid-19 outbreaks following the removal of most restrictions on travel and economic activity in China.

Buyers remain cautious

Buyers continue to maintain more balanced stocks even as tightening diesel supplies raise the prospects of increasing base oil prices. Some buyers have decided to pay higher prices for term supplies.

Weak demand has given buyers leverage to turn down prices that they deemed too high because of sufficient availability from domestic and overseas producers.

The reluctance to secure more shipments is more reflective of the practical difficulty of absorbing more supplies rather than the price.

Arb from US remain difficult

Arbitrage shipments from the US continue to be difficult to conclude as they face a competitive Indian market sustained by discounted Russian crude oil and higher freight costs.

Buyers have typically been more reluctant to secure cargoes with a later delivery period because of the exposure to price changes between the purchase and delivery. Buyers are concerned if they will be able to take cargo deliveries.

Arbitrage shipments have attracted less interest because of less competitive prices and the time lag between purchase and delivery. Prices for some of these supplies have dropped to a level where the risk of further price drops are small.

Some South Korean producers continue to offer Group II spot supplies at steady price levels. A producer offered its Group II heavy grade for January-loading at around \$935/t cfr Mumbai. But buyers are seeking even lower prices.

Another South Korean producer has offered its very-light grade volumes for loading from Spain and the port of Ulsan.

Some buyers are expecting prices to increase after the

Group I				\$/t
	Low	Mid	High	±
SN 150 cfr	950	970.00	990	nc
SN 500 cfr	940	960.00	980	nc
SN 150 (LVI) cfr	950	970.00	990	nc
SN 500 (LVI) cfr	920	940.00	960	nc
Bright stock cfr	1,150	1,170.00	1,190	+20.00

Group II				\$/t
	Low	Mid	High	±
N70 cfr	910	930.00	950	nc
N150 cfr	910	930.00	950	nc
N500 cfr	940	960.00	980	nc

Group III				\$/t
	Low	Mid	High	±
4cst cfr	1,445	1,465.00	1,485	+50.00
6cst cfr	1,425	1,445.00	1,465	+50.00
8cst cfr	1,180	1,200.00	1,220	+30.00

Domestic refinery prices				
	Rs/l *	±	\$/t	±
Group I				
IOC prices, Chennai				
SN 70	104.34	-2.10	1,550.00	-24.00
SN 150	88.80	-2.10	1,240.00	-24.00
SN 500	97.55	-1.70	1,339.00	-18.00
Bright stock	116.00	+1.00	1,560.00	+20.00
IOC prices, Mumbai				
SN 70	90.00	-2.10	1,337.00	-25.00
SN 150	84.50	-2.10	1,180.00	-24.00
SN 500	90.35	-1.70	1,240.00	-18.00
Bright stock	110.90	+1.00	1,492.00	+20.00
Group II				
IOC prices, Chennai				
N70	117.83	+0.20	1,706.00	+10.00
N150	89.60	-2.10	1,279.00	-24.00
N500	98.31	-1.70	1,385.00	-18.00
IOC prices, Mumbai				
N70	92.70	-2.10	1,342.00	-25.00
N150	85.30	-2.10	1,218.00	-24.00
N500	91.55	-1.70	1,290.00	-19.00

* prices in Rs/l effective from 01 Jan

Vessel enquiries: India				t
Loading port	Next port	B/L Date	Volume	
Haldia+Chennai	Hamriyah	25-30 Jan	Up to 8,000	
Rayong	WCI+UAE	23 Jan	2,000	
Thailand	Jebel Ali/WCI	End Jan	5,000	
Ruwais	Mumbai/Hazira	20-25 Jan	6,000	
Hazira/Mumbai	Rio de Janeiro	20-30 Jan	Up to 8,000	
South Korea	Mumbai	10-20 Jan	Up to 4,000	
Ras Al Khaimah	Trincomalee	2H Jan	3,000	
Mumbai/Hazira	Ras Al Khaimah	01-07 Jan	3,000	
				Source: shipping agents, brokers

lunar new year and before the end of India's fiscal year on 31 March. Demand typically strengthens before the end of the fiscal year because domestic blenders sell their lubricants at discounted prices to clear their stocks. Tightening diesel supply typically places additional upward pressure on prices.

Premium to diesel narrows

Light grade base oil prices are facing upward pressure as overseas producers target higher offers in response to firmer diesel prices.

Overseas suppliers are trying to keep prices firm, especially for light grades, as diesel prices have trended upwards from early December 2022. But Indian buyers are resisting firmer prices. Market fundamentals are different now compared to the spring and summer months of 2022, when gasoil prices were higher and base oil demand was higher.

Base oil from Indian producers remains an attractive alternative source of supply. But they have scant availability of very light grades.

The upcoming EU sanctions on Russian refined products has prompted some in the European market to begin stockpiling diesel, which has made the market appear tighter despite overall weak consumption.

Spot supplies remain at a discount to term contracts. Lower spot prices are not spurring more buying interest.

Domestic producers' prices mixed

Producers are targeting Group II light grades prices above \$930/t cfr. Some buyers are reluctant to commit to these supplies because these prices are deemed too high while demand remains weak. Others can accept that prices are now trending higher because of their weak margins versus gasoil and crude.

India's base oil producers cut most of their domestic Group I and Group II prices for January. Producers reduced their prices for Group I and Group II light neutrals by 2.10 rupees/litre (\$0.03/l) and heavy neutrals by Rs1.70/l. The exception was very light and very heavy grades. Group II N70 prices in Chennai increased by Rs0.20/l and bright stock rose by Rs1.00/l.

MIDEAST GULF

- Buying activity remains slow
- Ample availability caps prices

Mideast Gulf base oil prices have mostly fallen on weak supply-demand dynamics. Prices for heavy grades have fallen further because of more ample supplies in the region. Market activity slowed during the holiday period at the end of the year. It remains slow as buyers and sellers return to

MIDEAST GULF SPOT PRICES

Group I	\$/t			
	Low	Mid	High	±
Bright stock ex-tank UAE	1,260	1,280.00	1,300	nc
SN 150 cfr UAE	1,010	1,030.00	1,050	nc
SN 500 cfr UAE	980	1,000.00	1,020	nc
Bright stock cfr UAE	1,170	1,190.00	1,210	nc
SN 150 (LVI) cfr UAE	955	975.00	995	nc
SN 500 (LVI) cfr UAE	880	900.00	920	nc

Group II	\$/t			
	Low	Mid	High	±
N150 ex-tank UAE	1,020	1,040.00	1,060	-20.00
N500 ex-tank UAE	1,040	1,060.00	1,080	-30.00

Group III	\$/t			
	Low	Mid	High	±
4cst ex-tank UAE	1,490	1,510.00	1,530	+50.00
6cst ex-tank UAE	1,440	1,460.00	1,480	+50.00
8cst ex-tank UAE	1,280	1,300.00	1,320	+30.00

Vessel enquiries: UAE				t
Loading port	Next port	B/L Date	Volume	
Mailiao	Hamriyah	20-30 Jan	3,000	
Haldia+Chennai	Hamriyah	25-30 Jan	Up to 8,000	
Rayong	WCI+UAE	23 Jan	2,000	
Hong Kong	Hamriyah	1H Jan	3,000	
Thailand	Jebel Ali/WCI	End Jan	5,000	
Ruwais	Mumbai/Hazira	20-25 Jan	6,000	
Ras Al Khaimah	Trincomalee	2H Jan	3,000	
Mumbai/Hazira	Ras Al Khaimah	01-07 Jan	3,000	
Taiwan	Hamriyah	10-30 Jan	3,000	
3 Ports S.Korea	Hamriyah	20 Jan-05 Feb	3,000	

Source: shipping agents, brokers

the market.

There are prospects of tighter light grade availability as Europe builds diesel stocks ahead of EU sanctions on Russian refined oil products from early February. Light grade supply is tighter despite weaker supply-demand fundamentals as global demand remains muted and uncertain.

Supplies from Iran have become more limited. The arbitrage from Europe remains shut.

Offers of Russian-origin supplies loading in Turkey have not attracted much buying interest as buyers seek larger discounts to compensate for the longer transit time. This is longer compared to the delivery of Iranian supplies.

Prices for Group I SN 150 from Iran fell by \$15/t to \$995/t ex-tank. Prices for Group I SN 500 edged up to \$935/t ex-tank.

Prices for Group II N150 and N500 dropped further by \$30-35/t to \$1,030/t and \$1,055/t ex-tank, respectively.

A local Mideast Gulf refiner has offered bundled supplies of Group III 4cst and 8cst. Prices for Group III 4cst have been reported at \$1,640/t ex-tank and 8cst at around \$1,320/t ex-tank.

No new prices have been reported for Group III 6cst amid limited availability.

EUROPE & TURKEY

- Group I prices fall on stock-clearing
- Waning demand weighs on Group II prices
- Group III prices steady on mixed demand

European Group I and Group II base oil prices have fallen, pressured by persistent surplus overhangs and increased discounts to clear excess supply. Group III base oil prices have held steady as supply remain manageable while demand remains seasonally slow.

Refiners seek to clear overhang

Regional Group I prices have slipped on plentiful stocks as demand remains weak.

Some blenders remain on holiday through early January. Several lubricant blending facilities remain shut for maintenance. Some blenders continue to closely manage their inventory. This is keeping base oil demand muted.

Several refiners continue to have a persistent surplus overhang. These refiners are seeking to clear their surplus supplies into the export market.

There are growing supply concerns ahead of the EU's full embargo on Russian refined products from 5 February. But some market participants are waiting to take a position on the market until after the sanctions take effect.

Producers drop prices

Group II base oil prices have continued to fall as supplies remain abundant and demand continues to lag.

Some producers have decreased their posted prices to spur buying appetite, but demand remains weak. A supplier continues to delay a barge shipment from December as tanks are full and prices continue to fall.

Some blenders have not yet returned from the holidays. Some lubricant production in the region has also not resumed. This is keeping Group II demand weak.

Lower freight costs for flexitank shipments are supporting offers for lower-priced supplies from Asia. Offers from the US are waning as a key US Gulf coast refiner is undergoing maintenance from late January.

Demand mixed

Group III demand is mixed within the region. Some buyers continue to draw out negotiations. Others in eastern Europe continue to seek more volumes ahead of the EU embargo on Russian refined products from early next month.

Storage costs have increased for some Group III suppliers. These have been passed on to buyers through firm base oil prices.

Group I	€/t			±	\$/t
	Low	Mid	High		
SN 150 fob domestic NWE	1,030	1,050.00	1,070	-30.00	
SN 500 fob domestic NWE	1,120	1,140.00	1,160	-50.00	
Bright stock fob domestic NWE	1,390	1,410.00	1,430	-50.00	
SN 150 fob European export	865	885.00	905	-40.00	
SN 500 fob European export	945	965.00	985	-55.00	
Bright stock fob European export	1,180	1,200.00	1,220	-55.00	

Group II	€/t				\$/t			
	Low	Mid	High	±	Low	Mid	High	±
N100 fca ARA	1,255	1,275.00	1,295	-55.00	1,321	1,342.00	1,363	-67.00
N150 fca ARA	1,230	1,250.00	1,270	-60.00	1,295	1,316.00	1,337	-72.00
N220 fca ARA	1,250	1,270.00	1,290	-30.00	1,316	1,337.00	1,358	-40.50
N600 fca ARA	1,465	1,485.00	1,505	-35.00	1,542	1,563.00	1,584	-47.50

Group III	€/t				\$/t			
	Low	Mid	High	±	Low	Mid	High	±
4cst fca NWE	1,970	2,000.00	2,030	nc	2,074	2,105.50	2,137	-13.50
6cst fca NWE	1,950	1,980.00	2,010	nc	2,053	2,084.50	2,116	-13.50
8cst fca NWE	1,900	1,930.00	1,960	nc	2,000	2,031.50	2,063	-13.50

Group III (a) *	€/t				\$/t			
	Low	Mid	High	±	Low	Mid	High	±
4cst fca NWE	2,000	2,030.00	2,060	nc	2,105	2,136.50	2,168	-14.50
6cst fca NWE	2,000	2,030.00	2,060	nc	2,105	2,136.50	2,168	-14.50
8cst fca NWE	1,995	2,025.00	2,055	nc	2,100	2,131.50	2,163	-14.00

* Group III (a) refers to base oils which have Volkswagen Oil Quality Standard VW 504 00/507 00 certification

Group III (b) *	€/t				\$/t			
	Low	Mid	High	±	Low	Mid	High	±
4cst fca NWE	1,955	1,985.00	2,015	nc	2,058	2,089.50	2,121	-13.50
6cst fca NWE	1,920	1,950.00	1,980	nc	2,021	2,052.50	2,084	-13.50
8cst fca NWE	1,875	1,905.00	1,935	nc	1,974	2,005.50	2,037	-13.00

* Group III (b) refers to base oils which do not have Volkswagen Oil Quality Standard VW 504 00/507 00 certification

Turkey Group I	€/t			±	\$/t
	Low	Mid	High		
SN 150 cfr Gebze	900	920.00	940	-20.00	
SN 500 cfr Gebze	930	950.00	970	-20.00	

Some volumes from Asia-Pacific are targeting higher margins in the US market as freight costs ease. Some of these volumes are also targeting Latin America.

Replenishment shipments from several Group III producers to Europe are expected to arrive in the coming weeks.

Supplies targeted at west Africa

European Group I export prices have decreased as refiners continue to seek to clear their surplus overhangs. More supplies are being targeted at west Africa as more buyers in the region have been able to secure lines of credit. This has spurred more transactions from Europe to the region in recent weeks.

An 11,000t cargo made up of various Group I grades is moving to Nigeria from southern Europe. The shipment loaded at the end of December. Another 10,000t cargo made up of SN 500 also loaded in the last week of December in the Mediterranean before moving to west Africa.

Some sellers in the region are targeting the Mideast Gulf and India. Discussions for these markets are continuing.

TURKEY

Turkey's Group I base oil prices have decreased as surplus supplies continue to outpace sluggish demand.

Russian base oil continues to target the Turkish market despite abundant supplies already within Turkey.

Prices for Russian base oil continue to fall ahead of EU sanctions on these supplies from early February. Russian base oil shipments to Europe continue to drop. The country's sole Group I refiner has kept prices unchanged amid muted demand.

Demand remains firm for Group II and fully-approved Group III grades to produce higher-quality finished products. These volumes are being secured from Asia-Pacific and Europe.

Domestic producer ex-tank refinery price					
Product	TRY/t		USD/t		+/- 26-30 Dec
	02-06 Jan	+/- 26-30 Dec	02-06 Jan	+/- 26-30 Dec	
SN 100	19,375	0	1,032	-5	
SN 150	17,269	0	920	-5	
SN 500	19,999	0	1,065	-6	
Bright stock	23,967	0	1,277	-7	

Crude	\$/bl	
		±
Ice Brent front month (\$/bl)	78.69	-3.57
North Sea Dated	77.11	-3.50
SN 500 premium to North Sea Dated	58.90	-4.25

Oil products	\$/t	
		±
Ice gasoil front month (\$/t)	860.25	-58.50
Heating oil 0.1% barge (\$/t)	841.25	-58.50
Vacuum gasoil 0.5% barge (\$/t)	572.38	-25.37
Vacuum gasoil 2.0% barge (\$/t)	554.25	-25.13
Fuel oil 3.5% barge (\$/t)	346.25	-11.00
Straight run M-100 fuel oil cargo (\$/t)		

Oil products premiums	\$/t	
Heating oil premium to crude (\$/bl)	35.91	-4.36
Heating oil premium to VGO 2.0% (\$/bl)	31.68	-4.17
SN 500 premium to heating oil (\$/bl)	22.99	+0.11
SN 500 premium to VGO 2.0% (\$/bl)	54.67	-4.06

	European forward prices						\$/t
	SN 150			SN 500			
	Low	High	+/-	Low	High	±	
Jan 2023	875.00	895.00	-40.00	955.00	975.00	-55.00	
Feb 2023	862.55	882.55	-41.00	942.55	962.55	-56.00	
Mar 2023	842.50	862.50	-43.75	922.50	942.50	-58.75	
1Q 2023	860.05	880.05	-41.55	940.05	960.05	-56.55	
2Q 2023	802.80	822.80	-49.80	882.80	902.80	-64.80	

The price shows the implied forward-curve base oil price required to maintain its existing profit margin relative to Ice gasoil futures.

Refer to www.argusmedia.com for methodology

	European forward premium to gasoil						\$/t
	SN 150			SN 500			
	Midpoint		±	Midpoint		±	
Jan 2023		1.75	-38.25		81.75	-53.25	
Feb 2023		14.20	-37.25		94.20	-52.25	
Mar 2023		34.25	-34.55		114.25	-49.55	
1Q 2023		16.75	-36.65		96.75	-51.65	
2Q 2023		74.00	-28.45		154.00	-43.45	

The premium shows the implied forward-curve profitability of job Europe SN 150 and SN 500 relative to Ice gasoil futures.

Refer to www.argusmedia.com for methodology

Freight rates to Gebze, Turkey						\$/t
Route	3,000t		Route	5,000t		
	Black Sea	55-65		50-55	Antwerp	63-68
Augusta	55-60	40-45	Baltic	140-160	120-130	
UAE	185-200	160-170				

* provided at market close on 06 January by Borchart (www.borchart.com)



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RUSSIA AND FSU

- Export activity remains muted
- Sanctions hinder Russian shipments

Base oil prices are steady in the Baltic and Black Sea markets on muted buying activity. Prices in the Naushki market remain unchanged as market activity remains constrained by rail bottlenecks at the Chinese border.

Trading activity remains mostly muted in the Baltic region in late-December and early-January during the end of year holidays in Europe and Russia.

Bulk cargo loadings in the Baltic in December totalled 12,000t. Nearly 8,000t of this volume moved to Turkey. The remaining 4,000t moved from the Russian port of Vyborg for stock replenishment in Riga. Interest from European buyers for Russian supplies from the Baltic remained muted because of existing financial and logistical restraints from US and EU sanctions imposed on Russian oil products and companies.

Russian exports slow down

Regional buyers have been more cautious to secure supplies from Russian refineries ahead of EU's full embargo on Russian refined products from 5 February.

Rail shipments to Baltic ports from Russia fell by 12,800t to around 16,000t in December. More than 14,000t of that volume came from Lukoil's Perm and Volgograd refineries. The ability of other Russian producers – Rosneft and Gazpromneft – to export their products through Baltic terminals continue to be constrained by EU and US sanctions imposed on these companies.

Total base oil exports from Russia fell to 40,500t in December, down from nearly 81,000t in November. Shipments are likely to drop further in January and February as restrictions tighten on Russian refiners.

Turkey's demand wanes

Market activity in the Black Sea also remains sluggish. Offers of smaller-sized flexitank cargoes of light-grades, like SN 150 and SN 350, are reported in a wide price range between \$840-890/t cpt Novorossiysk. But buying interest remains low at these prices.

Rail deliveries to the Black Sea ports from Russian refineries fell sharply to just 500t in December, down from more than 16,000t in November. Russian supplies are abundant in Turkey, the main outlet for Black Sea supplies. This has likely curbed the country's ability to take on larger volumes as it absorbs its existing stocks.

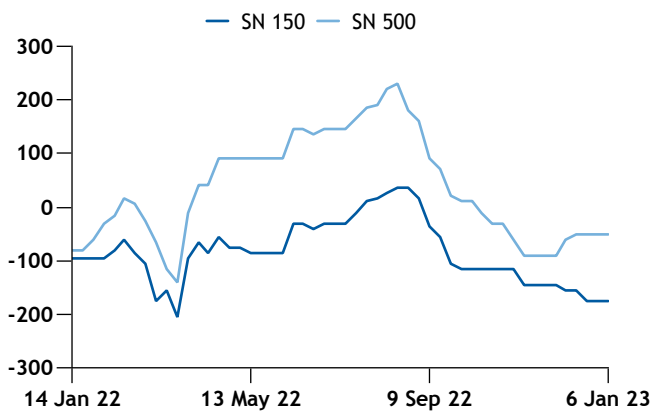
Baltic Sea Group I				\$/t			
	Low	Mid	High	±			
SN 150 fob	840	860.00	880	nc			
SN 500 fob	880	900.00	920	nc			
Black Sea Group I				\$/t			
	Low	Mid	High	±			
SN 150 fob	760	780.00	800	nc			
SN 500 fob	810	830.00	850	nc			
Naushki Group I				\$/t			
	Low	Mid	High	±			
SN 150 cpt	660	680.00	700	nc			
SN 500 cpt	690	710.00	730	nc			
Posin Group III				\$/t			
	Low	Mid	High	±			
4cst cpt	1,750	1,770.00	1,790	nc			
Russian base oils, lubes rail/river exports							
			'000t				
	Nov	Oct	±	Nov	Oct	±	
Rail							
Overland	30.36	30.21	+0.14	Baltic	28.77	23.55	+5.22
Afganistan	0.06	0.07	-0.00	Kaliningrad	8.98	5.21	+3.77
Armenia	0.00	0.00	nc	Liepaja	0.45	0.45	+0.00
Azerbaijan	2.11	2.23	-0.12	Riga	16.70	13.62	+3.07
Belarus	5.22	3.41	+1.81	Ventspils	0.00	0.00	nc
China	0.01	0.00	+0.01	St.Petersburg	0.00	0.00	nc
Hungary	0.00	0.00	nc	Vyborg	2.64	4.27	-1.63
North Korea	0.00	0.00	nc	Black Sea	16.11	10.41	+5.71
Finland	5.19	3.32	+1.87	Taganrog	7.37	8.63	-1.27
Kazakhstan	8.14	11.63	-3.48	Yeisk	0.00	0.00	nc
Kyrgyzstan	0.31	0.14	+0.17	Kavkaz	0.18	1.24	-1.06
Latvia	2.03	1.49	+0.54	Novorossiysk	0.57	0.54	+0.03
Lithuania	5.03	4.14	+0.89	Reny	0.00	0.00	nc
Moldova	0.00	0.00	nc	Odessa	0.00	0.00	nc
Mongolia	0.16	0.36	-0.20	Temryuk	8.00	0.00	+8.00
Romania	0.00	0.00	nc				
Poland	0.39	1.23	-0.84	River			
Georgia	0.00	0.06	-0.06	Volgograd	4.65	4.80	-0.15
Tajikistan	1.05	0.59	+0.46				
Turkmenistan	0.11	0.17	-0.07	Far East			
Ukraine	0.00	0.00	nc	Nakhodka	1.07	1.29	-0.22
Uzbekistan	0.53	1.38	-0.86				
Total Russia rail, river exports				80.96	70.26	+10.70	
Russian base oil, lubes rail/river exports by supplier							
			'000t				
	Nov	Oct	±	Nov	Oct	±	
Volgograd	21.44	15.35	+6.09	Yaroslavl	1.21	2.65	-1.44
by rail	16.79	10.55	+6.24	Ufa	1.84	2.50	-0.66
by river	4.65	4.80	-0.15	Orgkhim	0.74	0.62	+0.12
N.Novgorod	0.00	0.00	nc	Obninsk	3.47	3.23	+0.24
Perm	33.54	27.75	+5.79	Sofrino	1.08	0.79	+0.30
Novokuibyshevsk	4.84	2.73	+2.11	Orenburg	0.00	0.00	nc
Angarsk	2.84	0.63	+2.21	Omsk	3.08	4.22	-1.14
Nizhnekamsk	3.39	3.76	-0.37	Other	3.49	6.04	-2.55
Total				80.96	70.26	+10.70	

RUSSIA AND FSU

The Argus Russian diesel index rose in late-December to 51,338 roubles/t (\$720/t). Prices are supported by the pick-up in trading activity as Russia's domestic buyers sought to replenish their stocks ahead of a week-long holiday in Russia in the first week of January.

Black Sea vs UAE (LVI)

\$/t



Vessel enquiries: FSU				t
Loading port	Next port	B/L Date	Volume	
Riga	Gebze	08-12 Jan	Up to 7,000	
Kaliningrad	East Med	08-20 Jan	Up to 6,000	
Riga	Rio de Janeiro	16-25 Jan	5,000	

Source: shipping agents, brokers

Russian domestic lube/base oil supplies			'000t
Supplier	Nov 22	± Oct 22	
Lukoil Volgograd	5.82	-4.47	
Rosneft Novokuibyshevsk	11.43	-3.37	
Bashneft Ufa	6.26	-1.16	
Lukoil Perm	4.86	-0.81	
Rosneft Angarsk	5.20	3.80	
Gazpromneft Omsk	8.69	-0.93	
Gazpromneft/Rosneft Yaroslavl	10.17	-2.12	
Orgkhim	1.14	-0.12	
Tatneft Nizhnekamsk	11.25	-1.98	
Rosa-1	0.12	-0.12	
Lukoil Tyumen	0.12	0.06	
Shaumyan lube plant	1.44	0.56	
Devon Group	0.06	-0.06	
Sofrino lube plant	0.00	0.00	
Rosneft Ryazan	0.06	-0.06	
Experimental plant Neftekhim	0.00	0.00	
Obninskorgsintez	3.90	0.96	
Others	38.53	-3.99	
TOTAL	109.06	-13.80	

Russian and Belarusian base oil export duty *						\$/t
Jan 2023	Dec 2022	Nov 2022	Oct 2022	Sep 2022	Aug 2022	
5.00	12.90	12.80	13.30	15.60	15.90	
Jul 2022	Jun 2022	May 2022	Apr 2022	Mar 2022	Feb 2022	
16.50	13.40	14.80	18.30	17.40	14.30	

* tax paid by producer for base oils export outside of Russia, Belarus, Kazakhstan, Tajikistan and Kyrgyzstan

Baltic loadings					t
Port/terminal	Vessel	Next port	Volume	B/L Date	
Riga/Ventspils	Sigrid Theresa	Gebze	8,000	10-13 Dec	
Vyborg	Aleyna Mercan	Riga	4,000	8 Dec	
Riga	Aragonith	Hull	2,300	28 Nov	
Liepaja	Aleyna Mercan	Klaipeda	2,000	15 Nov	
Riga	BDP Spirit	Lagos	14,400	10 Nov	
Svetly	Sehnaz Ka	Limas	10,000	6 Nov	
Liepaja	Bergen Star	Immingham	1,600	20 Oct	
Riga	Nordic Saga	Dordrecht	3,000	4 Oct	
Svetly/Riga	PVT Elena	Turkey	3,000	9 Sep	
Vyborg	Aleyna Mercan	Riga	3,000	31 Aug	
Svetly	Sveva	Singapore	8,200	31 Jul	
Riga	Key North	Vaksdal	2,500	26 Jul	
Riga	Chem Lyra	Gdansk	8,000	7 Jul	
Riga	DutchAquamarine	Oulu	3,000	29 Jun	
Riga	SusanneTheresa	Rotterdam	3,000	5 Jun	
Riga	Aragonith	Eastham	2,000	30 May	
Riga	Dumankaya	Rotterdam	4,000	15 May	
Riga	Norma	Hull	1,000	14 May	

Baltic Sea Group III netback				\$/t
	Low	Mid	High	±
4cst	1,934	1,964.50	1,995	-12.50

Price calculated by subtracting freight costs and import tax from fca NWE Group III 4cst (b) price.

FSU KEY PRODUCERS' SN 500 PRICE (NETBACK) * \$/t

Perm	\$/t	Ufa	\$/t	Omsk	\$/t
To Baltic Sea	788	To Baltic Sea	784	To Baltic Sea	762
To Black Sea	746	To Black Sea	755	To Black Sea	729
To Naushki	584	To Naushki	586	To Naushki	615
Volgograd	\$/t	Angarsk	\$/t		
To Baltic Sea	792	To Baltic Sea	704		
To Black Sea	788	To Black Sea	673		
To Naushki	548	To Naushki	669		

* price calculated by subtracting transport costs and taxes between the producer and the fob Baltic, fob Black Sea and cpt Naushki pricing point.

US

- Producers cut Group II postings by \$0.20-0.55/USG
- Group II, III supplies remain plentiful
- Demand receives boost from restocking

US base oil prices have decreased on ample supply, weak demand and falling feedstock and competing fuel values.

Several key US Gulf coast (USGC) Group II refiners have responded to weakening market fundamentals by lowering their posted prices.

Motiva, Chevron cut prices

Motiva notified its customers on 5 January of price decreases effective from 1 January. It has lowered its Group II light- and mid-viscosity grades by \$0.50/USG and cut its heavy grade by \$0.20/USG. It reduced all its Group III grades by \$0.20/USG. It also lowered its Group II+ postings by \$1.30/USG and \$1.35/USG. The new prices are reflected in the *Argus Posted Prices* table.

Chevron also notified its customers on 5 January of posted price decreases. It will lower its N100 by \$0.50/USG, N220 by \$0.55/USG and N600 by \$0.25/USG. The new prices will take effect from 10 January. These new prices will be reflected in next week's *Argus Posted Prices* table after they have taken effect.

SK Lubricants announced in late December price decreases of \$0.15-0.40/USG to its Group II+ and Group III base oil. These new prices took effect from 1 January.

Several other refiners are evaluating their positions. More refiners are expected to lower their postings in the coming weeks.

Those refiners that lowered their postings and had given their term customers discounts or temporary value adjustments (TVAs) at the end of 2022 have now removed them. Several refiners had TVAs in place ranging between \$0.15-0.50/USG for Group I, Group II and Group III base oils.

Maintenance to curb surplus Group II

Supplies of premium-grade base oil are plentiful amid persistently weak demand. Surplus overhangs persist despite unplanned weather-related production disruptions at several Group I and Group II refineries in Texas in late December. The refinery outages lasted a few days.

Surplus Group II supplies are likely to decrease in the second half of January when a key USGC refiner shuts for a planned turnaround that is expected to last 55 days.

Oil products premiums	\$/USG		\$/bl	
	Price	±	Price	±
	Heating oil premium to WTI	0.66	-0.17	27.65
Heating oil premium to VGO 2%	0.39	-0.14	16.65	-5.93
SN 500 premium to heating oil	1.36	+0.28	57.03	+11.79

Argus USGC domestic prices	\$/USG				\$/t			
	Low	Mid	High	±	Low	Mid	High	±
	Group I							
SN 150	3.74	3.82	3.90	-0.08	1,133	1,157.50	1,182	-24.00
SN 500	4.99	5.07	5.15	-0.06	1,487	1,511.00	1,535	-18.00
Bright stock	6.05	6.13	6.21	-0.05	1,779	1,802.50	1,826	-14.00
Group II								
N100	3.64	3.72	3.80	-0.08	1,128	1,153.00	1,178	-25.00
N220	3.69	3.77	3.85	-0.08	1,125	1,149.50	1,174	-25.00
N600	5.61	5.69	5.77	-0.20	1,683	1,707.00	1,731	-60.00
Group III								
4cst	6.25	6.33	6.41	-0.07	1,969	1,994.00	2,019	-22.00
6cst	5.23	5.31	5.39	-0.07	1,647	1,672.50	1,698	-22.50
8cst	5.18	5.26	5.34	-0.07	1,632	1,657.00	1,682	-22.00

Volume: 50t minimum

Argus USGC Group I bulk export prices	\$/USG				\$/t			
	Low	Mid	High	±	Low	Mid	High	±
	SN 150 fob	2.74	2.82	2.90	nc	830	854.50	879
SN 500 fob	3.69	3.77	3.85	nc	1,100	1,123.50	1,147	nc
Bright stock fob	5.05	5.13	5.21	nc	1,485	1,508.50	1,532	nc

Volume: 1,000t minimum

Argus USGC Group II bulk export prices	\$/USG				\$/t			
	Low	Mid	High	±	Low	Mid	High	±
	N100 fob	2.64	2.72	2.80	nc	818	843.00	868
N220 fob	2.69	2.77	2.85	nc	820	844.50	869	nc
N600 fob	4.25	4.33	4.41	-0.25	1,275	1,299.00	1,323	-75.00

Volume: 1,000t minimum

Argus USGC naphthenic domestic prices	\$/USG				\$/t			
	Low	Mid	High	±	Low	Mid	High	±
	Pale oil 60	4.46	4.54	4.62	-0.02	1,321	1,345.00	1,369
Pale oil 100	4.71	4.79	4.87	-0.02	1,381	1,404.00	1,427	-5.50
Pale oil 500	4.88	4.96	5.04	-0.04	1,402	1,425.00	1,448	-11.50
Pale oil 2000	4.92	5.00	5.08	-0.04	1,404	1,426.50	1,449	-11.50

Volume: 20t minimum

Argus USGC naphthenic bulk export prices	\$/USG				\$/t			
	Low	Mid	High	±	Low	Mid	High	±
	Pale oil 60 fob	4.35	4.43	4.51	-0.02	1,289	1,312.50	1,336
Pale oil 100 fob	4.61	4.69	4.77	-0.02	1,351	1,374.50	1,398	-6.00
Pale oil 500 fob	4.77	4.85	4.93	-0.03	1,370	1,393.00	1,416	-9.00
Pale oil 2000 fob	4.83	4.91	4.99	-0.03	1,378	1,401.00	1,424	-8.50

Volume: 1,000t minimum

Oil products	\$/USG		\$/bl	
	Price	±	Price	±
	NYH heating oil barge	2.41	-0.28	101.32
USGC 10ppm diesel 62 cargo	2.94	-0.32	123.37	-13.64

US

Domestic demand has started to pick up among those blenders that depleted their inventories before the end of the year. Some blenders reduced their base oil orders in November and December to limit their inventory tax liabilities at the end of the year. Orders among those buyers seeking to restock are near or slightly below expectations for January.

Domestic US demand outlook remains uncertain for the second half of January. Some participants remain concerned that lower crude oil values will incentivise blenders to limit orders until the market stabilises.

Lube prices under downwards pressure

Lower base oil posted prices will place downwards pressure on finished lubricants prices. Several blenders offered discounts to select customers in the fourth quarter to incentivise steady orders. Buyers are expected to request more discounts or outright price decreases because of lower base oil prices and feedstocks values.

Lubricants additives are readily available as prices remain steady. Some blenders have requested lower additive prices because of weak lubricants demand.

Group I bright stock prices continue to receive support from balanced inventories and expectations for firmer demand from Mexico. Domestic demand remains seasonally weak. Supplies of heavy grade base stock are balanced as several key producers continue to run at reduced rates. Some of these run cuts began in October.

Demand remains weaker

Group I and Group II heavy grades prices have also fallen on weaker domestic and export demand. But inventories for these grades remain more manageable compared with surpluses for light- and mid-viscosity grades.

Prices for light- and mid-viscosity grades continue to fall on weak demand and ample supply. Some refiners continue to limit pouring light grades back into the distillates stream. These refiners are managing the build-up of excess diesel while demand for the alternative fuel remains weaker than expected.

Group III prices have also decreased on more supply availability and steady-to-softer demand to start the year. Several key sellers will bring more import volumes in the coming weeks after these shipments were delayed in December because of weakening demand from stock-clearing.

Group III demand has been reported to be weaker than expected. Some sellers are offering bulk spot volumes of Group III 6cst and 8cst below Argus domestic spot US Group

Feedstocks	\$/USG		\$/bl	
	Price	±	Price	±
	Nymex WTI crude front month	1.75	-0.12	73.67
Argus Sour Crude Index (ASCI™)	1.64	-0.09	68.75	-4.10
USGC low sulphur VGO 0.5% cargo	2.02	-0.10	84.67	-4.36
USGC high sulphur VGO 2% cargo	2.02	-0.14	84.67	-5.86

Feedstocks premiums	\$/USG		\$/bl	
	Price	±	Price	±
	SN 500 premium to WTI	2.02	+0.12	84.68
SN 500 premium to ASCI™	2.13	+0.09	89.60	+4.10
SN 500 premium to VGO 2%	1.75	+0.14	73.68	+5.86

US SN 500 forward prices	\$/USG			\$/t		
	Low	High	±	Low	High	±
Feb 2023	3.75	3.80	+0.05	1,116.00	1,130.90	+12.45
Mar 2023	3.66	3.71	+0.03	1,089.80	1,104.70	+8.65
Apr 2023	3.56	3.61	na	1,060.80	1,075.70	na
2Q 2023	3.50	3.55	+0.01	1,043.70	1,058.60	+2.95
3Q 2023	3.43	3.48	na	1,021.45	1,036.35	na

The price shows the implied forward-curve base oil price required to maintain its existing profit margin relative to Nymex heating oil futures. Refer to www.argusmedia.com for methodology

US SN 500 forward premium to heating oil	\$/USG		\$/t	
	Midpoint	±	Midpoint	±
	Feb 2023	0.69	-0.02	206.00
Mar 2023	0.78	-0.01	232.25	-2.90
Apr 2023	0.88	na	261.25	na
2Q 2023	0.93	+0.01	277.15	+3.00
3Q 2023	1.01	na	301.00	na

The premium shows the implied forward-curve profitability of job US export SN 500 relative to Nymex heating oil futures. Refer to www.argusmedia.com for methodology

Vessel enquiries: Americas				†
Loading port	Next port	B/L Date	Volume	
South Korea	Ecuador	Mar	7,000	
Hazira/Mumbai	Rio de Janeiro	20-30 Jan	Up to 8,000	
Riga	Rio de Janeiro	16-25 Jan	5,000	
South Korea	Cuba	2J Jan-1H Feb	Up to 11,000	

III 6cst and 8cst lows. Offers for railcar volumes are within Argus price ranges for these grades.

A key Mideast Gulf refiner will have a week-long turnaround in the first quarter. The refiner is expected to have sufficient inventories to cover its obligations during the turnaround.

NAPHTHENIC BASE OILS

US naphthenic base oil prices have fallen on lower crude oil values and weaker seasonal demand. Producers are facing increased pressure to lower their term prices because of declining crude oil values.

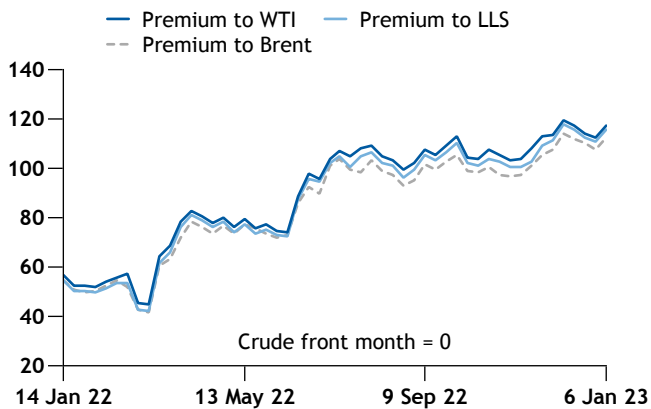
Discounts or temporary value adjustments continue to be offered on heavier naphthenic grades, including pale oil 2000. Demand for heavy grades remains seasonally weak from the tire and rubber and asphalt sectors.

Demand for lighter pale oils is firm because of supply-tightness for transformer oils. Some refiners also remain concerned that firmer demand for diesel in the first quarter is expected to put upward pressure on lighter grades.

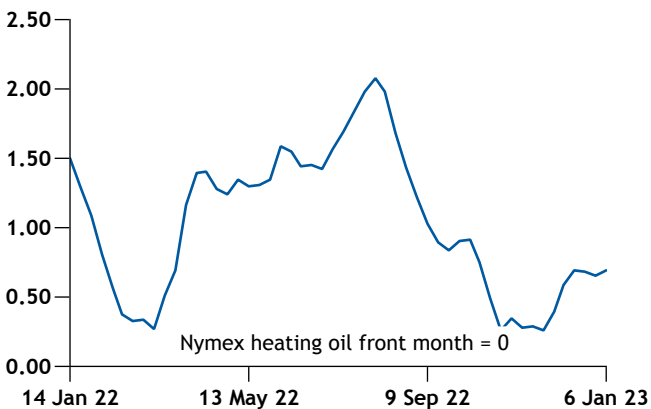
Naphthenic base oil supplies remain balanced to tight. A key refiner is working to rebuild its inventories following several unplanned outages in the third quarter.

Naphthenic base oil from Cross Oil's 5,000 b/d refinery in Smackover, Arkansas is now being marketed by Ergon-owned Process Oils. The marketing change is expected to increase export volumes from the US.

Argus spot US Pale oil 60 premium to crude \$/bl



US SN 500 premium to heating oil \$/USG



LATIN AMERICA

Latin American base oil demand remains seasonally weak as key markets in the region continue to have ample inventories.

In Brazil, buyers continue to prioritise securing domestic volumes as import offers have increased. Some supplies from the US Gulf coast are being offered at higher prices than in December. Fewer buyers are interested in securing volumes from South Korea because of long delivery times.

But demand remains firm for lower-priced South Korean supplies among buyers in west coast South America.

Some re-refined light grades were sold from Europe to Brazil in late December. There are also more offers surfacing from India.

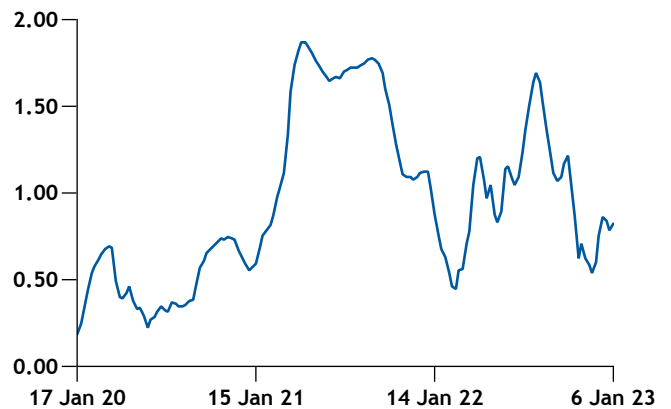
In Mexico, base oil supplies are plentiful. But there is interest to move surplus supplies from the US, Europe and Asia into that market.

But offers of Group I and Group II have decreased into the Brownsville, Texas market. Prices may face downward pressure as US producers have lowered their postings. Those with inventories will face increased pressure to lower prices to clear those stocks.

A shipment of Group I bright stock from overseas is expected to arrive in Mexico in the first quarter. This has prompted some buyers to reject spot offers of the heavy grade from the US.

Mexican demand is expected to increase for light-viscosity grades after subsidies for diesel are removed and inventories are drawn down.

Argus spot US SN 150 premium to NY heating oil \$/USG



AMERICAS POSTED PRICES

\$/USG

Group I *												
	ExxonMobil Gulf coast			HollyFrontier			Paulsboro Refining east coast			Calumet Shreveport		
	Effective	\$/USG	±	Effective	\$/USG	±	Effective	\$/USG	±	Effective	\$/USG	±
70/75				23 Sep 22	5.88	-0.45						
100	22 Sep 22	5.99	-0.35	23 Sep 22	5.88	-0.45	27 Sep 22	6.24	-0.35			
150	22 Sep 22	5.89	-0.35	23 Sep 22	6.06	-0.45	27 Sep 22	6.04	-0.35			
250				23 Sep 22	6.07	-0.45						
300/350	22 Sep 22	6.06	-0.35									
500				23 Sep 22	7.47	-0.35	27 Sep 22	7.28	-0.35			
600/650	22 Sep 22	7.14	-0.35							26 Sep 22	7.30	-0.35
700							27 Sep 22	7.31	-0.35			
Bright stock	22 Sep 22	8.56	-0.35	23 Sep 22	8.44	-0.40	27 Sep 22	8.71	-0.35	26 Sep 22	8.54	-0.35

Group II *												
	Excel Paralubes Gulf coast			Chevron Gulf coast			Motiva Gulf coast					
	Effective	\$/USG	±	Effective	\$/USG	±	Effective	\$/USG	±	Effective	\$/USG	±
70	20 Sep 22	6.54	-0.50									
100/110	20 Sep 22	6.45	-0.50	20 Sep 22	6.69	-0.45	01 Jan 23	4.97	-0.50			
220/225	20 Sep 22	6.60	-0.50	20 Sep 22	6.71	-0.50	01 Jan 23	5.54	-0.50			
600	20 Sep 22	7.30	-0.20	20 Sep 22	7.24	-0.30	01 Jan 23	6.47	-0.20			

Group II *												
	ExxonMobil Gulf coast			Calumet Shreveport			Petro-Canada Mississauga					
	Effective	\$/USG	±	Effective	\$/USG	±	Effective	\$/USG	±	Effective	\$/USG	±
70										21 Sep 22	6.50	-0.50
80				26 Sep 22	6.34	-0.50						
100				26 Sep 22	6.21	-0.50	21 Sep 22	6.34	-0.50			
150				26 Sep 22	6.74	-0.50						
200/220	22 Sep 22	7.21	-0.35				21 Sep 22	6.60	-0.50			
325				26 Sep 22	7.35	-0.50						
350							21 Sep 22	6.88	-0.50			
650							21 Sep 22	7.45	-0.25			

Group II+ *												
	SK Lubricants Gulf coast			Motiva Gulf coast			ExxonMobil Gulf coast			Petro-Canada Mississauga		
	Effective	\$/USG	±	Effective	\$/USG	±	Effective	\$/USG	±	Effective	\$/USG	±
50/60				01 Jan 23	6.25	-1.30						
65										23 Sep 22	8.48	-0.20
70/80	01 Jan 23	7.98	-0.40	01 Jan 23	6.85	-1.35						
100										23 Sep 22	7.99	-0.20
110/130							22 Sep 22	7.79	-0.35			

Group III *												
	SK Lubricants Gulf coast			Motiva Gulf coast			Petro-Canada Mississauga					
	Effective	\$/USG	±	Effective	\$/USG	±	Effective	\$/USG	±	Effective	\$/USG	±
4cst	01 Jan 23	8.70	-0.15	01 Jan 23	7.45	-0.20	22 Jun 22	10.02	+0.30			
6cst	01 Jan 23	8.85	-0.25	01 Jan 23	7.15	-0.20	22 Jun 22	9.87	+0.30			
8cst	01 Jan 23	8.93	-0.25	01 Jan 23	7.35	-0.20	22 Jun 22	9.97	+0.30			

Group II+ * Safety-Kleen												
	midcontinent and Canada			west coast								
	Effective	\$/USG	±	Effective	\$/USG	±	Effective	\$/USG	±	Effective	\$/USG	±
110/130	01 Oct 22	7.92	-0.50	01 Oct 22	8.07	-0.50						
240	01 Oct 22	8.57	-0.50	01 Oct 22	8.72	-0.50						

Avista Oil midwest/east coast *			
	Effective	\$/USG	±
Group II N150	26 Sep 22	7.65	-0.50
Group III 4cst	17 Jun 22	8.12	+0.35

* the ± column shows the price difference between the current and previous posted price.

AMERICAS POSTED PRICES

\$/T

Group I *												
	ExxonMobil Gulf coast			HollyFrontier			Paulsboro Refining east coast			Calumet Shreveport		
	Effective	\$/t	±	Effective	\$/t	±	Effective	\$/t	±	Effective	\$/t	±
70/75				23 Sep 22	1,822.80	-139.50						
100	22 Sep 22	1,844.92	-107.80	23 Sep 22	1,811.04	-138.60	27 Sep 22	1,915.68	-107.45			
150	22 Sep 22	1,808.23	-107.45	23 Sep 22	1,860.42	-138.15	27 Sep 22	1,824.08	-105.70			
250				23 Sep 22	1,845.28	-136.80						
300/350	22 Sep 22	1,836.18	-106.05									
500				23 Sep 22	2,255.94	-105.70	27 Sep 22	2,184.00	-105.00			
600/650	22 Sep 22	2,127.72	-104.30							26 Sep 22	2,175.40	-104.30
700							27 Sep 22	2,163.76	-103.60			
Bright stock	22 Sep 22	2,542.32	-103.95	23 Sep 22	2,506.68	-118.80	27 Sep 22	2,578.16	-103.60	26 Sep 22	2,534.59	-103.88

Group II *												
	Excel Paralubes Gulf coast			Chevron Gulf coast			Motiva Gulf coast					
	Effective	\$/t	±	Effective	\$/t	±	Effective	\$/t	±	Effective	\$/t	±
70	20 Sep 22	2,027.40	-155.00									
100/110	20 Sep 22	2,012.40	-156.00	20 Sep 22	2,067.21	-139.05	01 Jan 23	1,540.70	-155.00			
220/225	20 Sep 22	2,026.20	-153.50	20 Sep 22	2,046.55	-152.50	01 Jan 23	1,689.70	-152.50			
600	20 Sep 22	2,204.60	-60.40	20 Sep 22	2,182.86	-90.45	01 Jan 23	1,953.94	-60.40			

Group II *												
	ExxonMobil Gulf coast			Calumet Shreveport			Petro-Canada Mississauga					
	Effective	\$/t	±	Effective	\$/t	±	Effective	\$/t	±	Effective	\$/t	±
70										21 Sep 22	2,015.00	-155.00
80				26 Sep 22	1,956.52	-154.30						
100				26 Sep 22	1,908.08	-153.63	21 Sep 22	1,951.83	-153.93			
150				26 Sep 22	2,064.87	-153.18						
200/220	22 Sep 22	2,199.05	-106.75				21 Sep 22	2,015.64	-152.70			
325				26 Sep 22	2,239.32	-152.34						
350							21 Sep 22	2,086.64	-151.65			
650							21 Sep 22	2,262.19	-75.91			

Group II+ *												
	SK Lubricants Gulf coast			Motiva Gulf coast			ExxonMobil Gulf coast			Petro-Canada Mississauga		
	Effective	\$/t	±	Effective	\$/t	±	Effective	\$/t	±	Effective	\$/t	±
50/60				01 Jan 23	2,015.62	-419.25						
65										23 Sep 22	2,688.16	-63.40
70/80	01 Jan 23	2,513.70	-126.00	01 Jan 23	2,192.00	-432.00						
100										23 Sep 22	2,512.78	-62.90
110/130							22 Sep 22	2,438.27	-109.55			

Group III *												
	SK Lubricants Gulf coast			Motiva Gulf coast			Petro-Canada Mississauga					
	Effective	\$/t	±	Effective	\$/t	±	Effective	\$/t	±	Effective	\$/t	±
4cst	01 Jan 23	2,740.50	-47.25	01 Jan 23	2,361.20	-63.39	22 Jun 22	3,147.38	+94.23			
6cst	01 Jan 23	2,787.75	-78.75	01 Jan 23	2,237.95	-62.60	22 Jun 22	3,107.67	+94.46			
8cst	01 Jan 23	2,812.95	-78.75	01 Jan 23	2,300.55	-62.60	22 Jun 22	3,109.54	+93.57			

Group II+ * Safety-Kleen												
	midcontinent and Canada			west coast								
	Effective	\$/t	±	Effective	\$/t	±	Effective	\$/t	±	Effective	\$/t	±
110/130	01 Oct 22	2,468.66	-155.85	01 Oct 22	2,515.42	-155.85						
240	01 Oct 22	2,655.84	-154.95	01 Oct 22	2,702.33	-154.95						

Avista Oil midwest/east coast *			
	Effective	\$/t	±
Group II N150	26 Sep 22	2,380.53	-155.59
Group III 4cst	17 Jun 22	2,553.50	+110.06

* the ± column shows the price difference between the current and previous posted price.

The \$/t price is converted from the \$/USG price. Refer to www.argusmedia.com for methodology with the gallons-to-tonnes conversion factors.

MAINTENANCE AND SHUTDOWNS

Upcoming / recent base oil plant maintenance / shutdowns / closures					
Refiner	Location	Timing	Capacity	Capacity affected	Cause
Luberef	Jeddah, Saudi Arabia	Mid-2026	270,000 t/yr	All, Group I	Closure
ExxonMobil	PAC, Singapore	2025 for 2 months	660,000 t/yr	NA	Refinery turnaround
Formosa	Mailiao, Taiwan	1H Oct to Nov 2023	600,000 t/yr	All, Group II	Maintenance
Eneos	Mizushima B, Japan	Late-Aug 2023 for 3 months	225,000 t/yr	Partial	Refinery maintenance
Eneos	Wakayama, Japan	By Oct 2023	360,000 t/yr	All	Refinery closure
S-Oil	Onsan, South Korea	Jun 2023 for 1 month	41,000 b/d	All, Group II/III	Maintenance
Eneos	Kainan, Japan	May 2023 for 2 months	200,000 t/yr	Partial	Refinery maintenance
Chevron	Pascagoula, Mississippi, US	2Q 2023	23,000 b/d	All	Catalyst change
ExxonMobil	Jurong, Singapore	Mar 2023	2.25 mn t/yr	Partial	Refinery turnaround
Pertamina	Cilacap, Indonesia	Mid-Feb to Mid-Mar 2023	440,000 t/yr	All, Group I	Maintenance
Excel Paralubes	Westlake, Louisiana	2H Jan 2023 for 45 days	22,200 b/d	All, Group II	Catalyst change
ExxonMobil	Fawley, UK	From 09-10 Jan 2023	407,000 t/yr	Partial	Strike action #
HPCL	Mumbai, India	From late-Nov 2022	480,000 t/yr	Partial, Bright stock	Run-cut
MOL	Szazhalombatta, Hungary	From 12 Nov 2022	195,000 t/yr	All	Technical issues
Sepahan	Isfahan, Iran	From 30 Oct 2022	485,000 t/yr	Partial	Refinery maintenance
CNOOC Huizhou	Guangdong, China	27 Oct to 11 Nov 2022	400,000 t/yr	Partial	Maintenance
Calumet	Princeton, Louisiana, US	2H Oct 2022 for 2-3 weeks	6,900 b/d	All, Naphthenics	Maintenance
Sinopec	Jingmen, China	From mid-Oct 2022	200,000 t/yr	Partial	Run-cut
IRPC	Rayong, Thailand	Ely-Oct to end-Nov 2022	320,000 t/yr	Partial	Refinery turnaround
Thai Lube	Sriracha, Thailand	01 Oct to 01 Nov 2022	275,000 t/yr	Partial	Refinery turnaround
Cosmo	Yokkaichi, Japan	Ely-Oct to mid-Nov 2022	175,000 t/yr	All	Maintenance
Motiva	Port Arthur, Texas	Oct 2022 for 45 days	40,000 b/d	All, Group II/III	Catalyst change
ExxonMobil	Port Jerome, France	End-Sep to ely-Nov 2022	626,000 t/yr	All	Strike action
Total	Gonfreville, France	End-Sep to ely-Nov 2022	240,000 t/yr	All	Strike action
Eneos	Negishi, Japan	End-Sep 2022	210,000 t/yr	All	Closure
Naftan	Novopolotsk, Belarus	Ely-Sep 2022 for 1 month	200,000 t/yr	All	Repair works
Zibo Jincheng	Shandong, China	From mid-Sep 2022	600,000 t/yr	All, Group II	Shutdown
Lotos	Gdansk, Poland	From ely-Sep 2022	250,000 t/yr	NA	Run-cut
Chevron/Neste	Porvoo, Finland	Sep to end-Nov 2022	250,000 t/yr	Partial	Maintenance
Lukoil	Volgograd, Russia	Sep 2022	560,000 t/yr	Partial	Maintenance
Chevron/Neste	Porvoo, Finland	End-Aug 2022 for 1 month	250,000 t/yr	All, Group III	Maintenance
Zibo-Xintai	Shandong, China	End-Aug to mid-Sep 2022	500,000 t/yr	All, Group II	Run-cut
Bapco	Sitra, Bahrain	End-Aug to Nov 2022	400,000 t/yr	All, Group III	Maintenance
GS Caltex	Yeosu, South Korea	From end-Aug 2022	23,000 b/d	Partial, Group II	Run-cut
Eneos	Kainan, Japan	From end-Aug 2022 for 3 weeks	200,000 t/yr	All	Maintenance
Hyundai-Shell	Daesan, South Korea	From 22 Aug 2022	1.2 mn t/yr	Partial, Group II	Run-cut
Tupras	Izmir, Turkey	From 19 Aug 2022	400,000 t/yr	All, Group I	Maintenance
Hengli Petrochemical	Dalian, China	From Aug 2022	600,000 t/yr	Group II and III	Run-cut
Henan Junheng	Henan, China	Ely-Aug 2022 to Ely-Jan 2023	400,000 t/yr	All	Unplanned outage
Handi Sunshine	Hainan, China	Mid-Aug to Ely-Nov 2022	300,000 t/yr	All, Group II	Run-cut
Cross Oil	Smackover, Arkansas	2H Aug to ely-Sep 2022	5,000 b/d	All, Naphthenics	Unplanned outage
Lukoil	Perm, Russia	Aug to Sep 2022	460,000 t/yr	Partial	Maintenance
Rosneft	Angarsk, Russia	Aug 2022 for 1 month	250,000 t/yr	NA	Maintenance
Formosa	Mailiao, Taiwan	Jul-Sep 2022	600,000 t/yr	Partial, Group II	Run-cut
MOL	Szazhalombatta, Hungary	31 Jul to 18 Nov 2022	195,000 t/yr	All	Refinery maintenance
Cross Oil	Smackover, Arkansas	1H Jul 2022 for 1 week	5,000 b/d	All, Naphthenics	Unplanned outage
IRPC	Rayong, Thailand	19 Jun to 06 Jul 2022	320,000 t/yr	All	Production issues
MOL	Szazhalombatta, Hungary	14-22 Jun 2022	195,000 t/yr	All	Fire

Every effort has been made to verify information directly with appropriate company sources. Some information has been obtained from usually reliable sources, but cannot be officially confirmed with the refinery concerned. The list will be updated when new information becomes available. #Additional/updated plant data over the past week

MARKET FUNDAMENTALS

Upcoming / recent expansions / conversions / new plants					
Refiner	Location	Timing	New capacity	Grade	Expansion / New
IOC	Haldia, India	NA	270,000 t/yr	Group III	New
IOC	Chennai, India	NA	250,000 t/yr	Group II	Expansion
Modrica refinery	Modrica, Bosnia	NA	200,000 t/yr	Group III	Expansion
NA	Southeast Asia	NA	Up to 300,000 t/yr	Group II N150, N500	New
Luberef	Yanbu, Saudi Arabia	2026	175,000 t/yr	Group III	Conversion/new
Luberef	Yanbu, Saudi Arabia	2026	100,000 t/yr	Group II	Conversion/expand
ExxonMobil	Jurong, Singapore	2025	1mn t/yr	Group II N150, N600, high-vis base oils	New
Saudi Aramco/Sabic	Yanbu, Saudi Arabia	2025	NA	NA	New
IOC	Panipat, Delhi, India	2024-2025	540,000 t/yr	Group II/III	New
IOC	Vadodara, Gujarat,	2023	235,000 t/yr	Group II/III	New
Avista Green	Dollbergen, Germany	After 2022	10-15pc higher	Group I+ re-refinery	New
Hainan Handi Sunshine	Hainan, Yangpu, China	4Q 2022	Up to 800,000 t/yr	Group II+/III	New
Xinji-Feitian	Hebei, China	Ely-Sep 2022	250,000 t/yr	Group II/III	New
BPCL	Mumbai, India	2H 2022	450,000 t/yr	Group II N65, N150, N500, Group III 8cst	Expansion
Nuspec Oil	York, United Kingdom	2Q 2022	Up to 5,000 t/yr	Bio-bright stock	New
Tayras	Selimiye, Turkey	Mid-Jan 2022	40,000 t/yr	Group II+ re-refinery, N70, N110, N220	New
Hyundai Oilbank	Daesan, South Korea	Jan 2022	NA	Group II bright stock	New
EGEO Oil	Portugal	2022	14,000 t/yr	Group I re-refined SN 80/150/200/350	New
Hainan Handi	Hainan, China	2022	300,000 t/yr	Group II re-refinery	New
Gazpromneft	Omsk, Russia	2021-2022	220,000 t/yr	Group II/III 2cst, 4cst, 6cst and 8cst	Expansion
Avista Green	Kalundborg, Denmark	End-2021	10-15pc higher	Group I+ re-refinery	Expansion
CNOOC/Bora Petchem	Liaoning, China	End-2021	1.2mn t/yr	Naphthenic	Expansion
Ilboc (Sk-Repso)	Cartagena, Spain	2H 2021	Up to 50pc higher	Group II/III	Expansion
Sinopec	Yanshan, China	Jun-Jul 2021	250,000 t/yr	Group II	Expansion
Panjin Haoye	Liaoning, China	Apr 2021	200,000 t/yr	Group II N100, N150 and N350	New
Lukoil	Volgograd, Russia	Feb 2021	NA	Group II	New
Shenghong Petrochemical	Lianyungang, China	2021	620,000 t/yr	Group II/III	Cancelled
Sasol	Louisiana, US	After 2020	NA	GTL	Cancelled
Qinghe Petrochemical	Shandong, China	Jun 2020	600,000 t/yr	Group III/II	New
Ningbo Bohui	Zhejiang, China	2Q 2020	300,000 t/yr	Group II	New
Gen III Oil Corporation	Bowden, Canada	2Q 2020	2,240 b/d	700 b/d Group II, 1,540 b/d Group III	New
HILL	Chimkent, Kazakhstan	2020	250,000 t/yr	Group I/II/III	New
Liaohu Petrochemical	Liaoning, China	4Q 2019	400,000 t/yr	Naphthenic base oils	New
Sinopec	Jingmen, China	End-Oct 2019	550,000 t/yr	Group II heavy and white oils	New
Petrochina	Karamay, China	Oct 2019	30,000 t/yr each	Naphthenic bright stock, rubber oil	Expansion
Neste	California, US	3Q 2019	NA	Group III	Conversion
ExxonMobil	Jurong, Singapore	2Q 2019	100,000 t/yr	Group II	Expansion
Hengli Petrochemical	Dalian, China	Apr 2019	600,000 t/yr	Group II and III	New
ExxonMobil	Rotterdam, Netherlands	1Q 2019	900,000 t/yr	Group II	New
Puraglobe	Tampa, US	1Q 2019	50,000 t/yr	Group III	New
Henan Junheng	Henan, China	1Q 2019	400,000 t/yr	Group II	New
Lub-ref Bangladesh Ltd	Chittagong, Bangladesh	1Q 2019	50,000 t/yr	Group II N70, N150, N500/600 re-refinery	New
Shandong Qingyuan	Shandong, China	1Q 2019	800,000 t/yr	Group II+/III	New
Shandong Huanghe	Shandong, China	1Q 2019	180,000 t/yr	White oils and base oils, Group II	New
Shanxi Lu'an Taihang	Shanxi, China	1Q 2019	Up to 600,000 t/yr	Group III+ CTL, 2/3/4/8cst	New
Shida Changsheng	Shandong, China	Jan 2019	300,000 t/yr	Group II	New
VN Oil	Hiep Phuoc, Vietnam	After 2018	50,000 t/yr	Group II re-refinery	Cancelled
Liaoning Haihua	Liaoning, China	Dec 2018	300,000 t/yr	Naphthenic/paraffinic base oils, Group II	New

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#Additional/updated plant data over the past week

MARKET NEWS AND ANALYSIS

China's Nov base oils imports, exports fall on year

China's base oils imports in November climbed on the month but remained much lower on the year, while exports slid in line with curbed domestic output.

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Spain's base oil exports rise in third quarter

Spain's base oil exports increased in the third quarter of 2022 following a dip in domestic finished lubricant demand and rising spot export prices.

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US base oil production declines in Oct

US base oil and lubricant production in October fell as refiners worked to destock inventories amid weak demand domestically and globally.

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Viewpoint: Brazil to boost South America base oil demand

Brazil will boost demand for base oils in South America in 2023 and is also expected to attract more supply from Europe and the US.

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Taiwan's base oil exports fall in October 2022

Taiwan's base oil exports fell in October 2022 as run cuts by regional Group II suppliers could not counterbalance a bearish macroeconomic environment, especially in China.

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Viewpoint: Supply length key question for US base oils

The US base oil market is expected to start 2023 with ample surplus supplies, particularly for Group II grades, before a major turnaround at a base oils refiner begins in late January.

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German base oil output falls to seven-year low in September

German base oil production fell on the quarter and the year in September to its lowest since October 2015 probably as a result of disruption caused by low Rhine water levels.

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China's policy change to slow NEV growth in 2023

The end of an extended state subsidy is likely to slow China's new energy vehicle (NEV) growth in 2023, especially if the government continues a preferential tax policy on fuel vehicle sales.

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South Korea's base oil exports remain weak in November

Demand for South Korea's base oil was muted in November 2022 on the back of widespread uncertainty and prospects of further price reductions.

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Argus Base Oils is published by Argus Media group

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ISSN: 2042-9703

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