EDENOL® DOZ vs. DOS - Comparison I
Properties of pure products

Emery Oleochemicals

Parameter	Unit	EDENOL® DOZ	DOS
Colour	-	Colourless	Colourless
Odour	-	Odourless	Odourless
Viscosity [20 °C]	mPas	~ 20	~ 20
Specific gravity	g/cm³	~ 0.92	~ 0.92
Pour point	°C	~ -80	~ -80
Pour point	°F	~ -112	~ -112
Molecular weight	Dalton	412	426

Summary: EDENOL® DOZ and DOS are very very similar in their physical properties

EDENOL® DOZ vs. DOS - Comparison II
Plasticizing properties in PVC

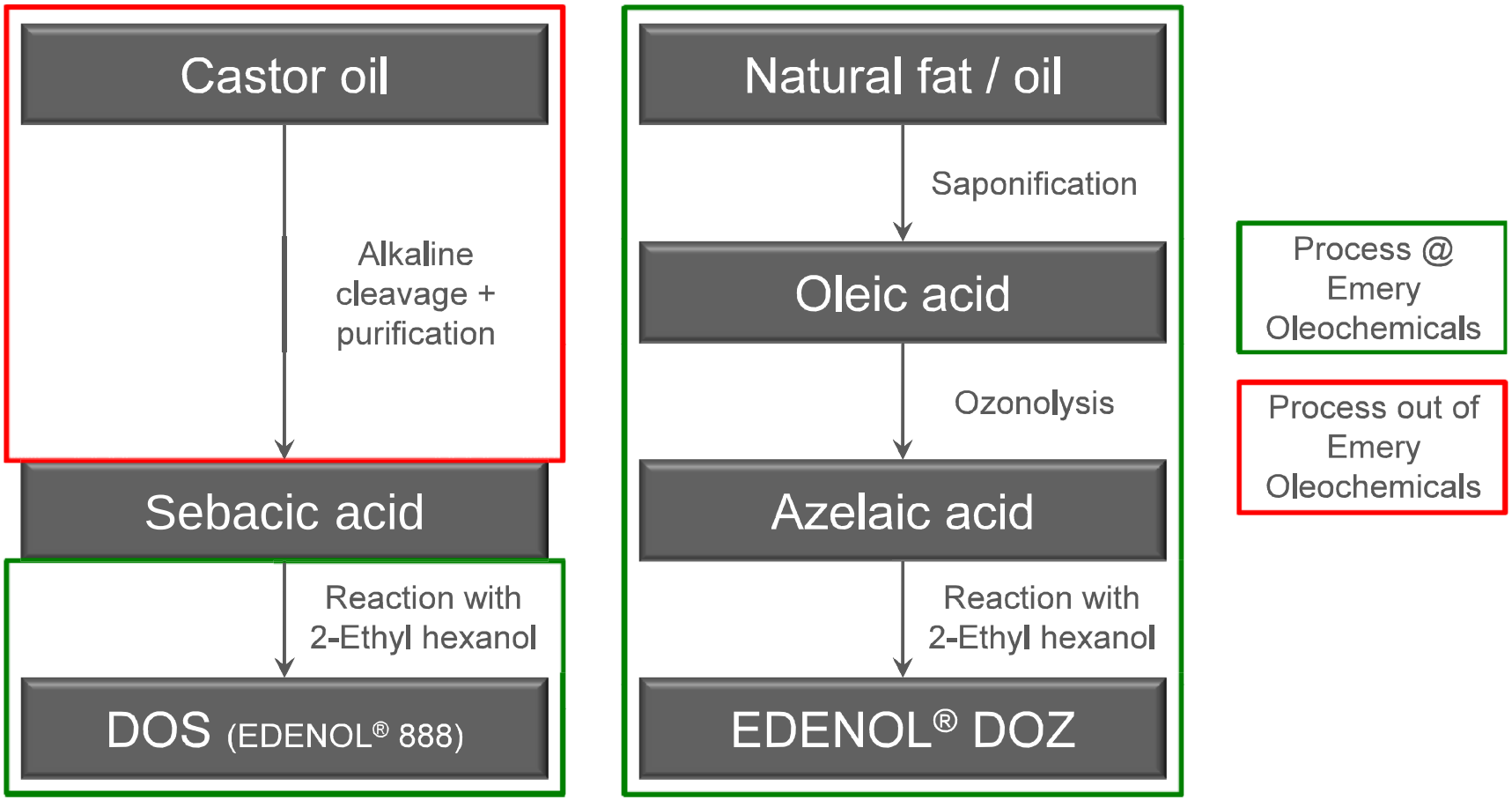
Emery Oleochemicals

Parameter	Unit	EDENOL® DOZ @40 phr	DOS @40 phr	EDENOL® DOZ @70 phr	DOS @70 phr
Shore A hardness	-			~ 71	~ 78
Shore D hardness	-	~ 35	~ 37		
Tensile strength	N	~ 230	~ 233	~ 156	~ 172
Breaking tension	N/mm²	~ 19.8	~ 19.8	~ 14.2	~ 14.8
Elongation at break	%	~ 545	~ 541	~ 727	~ 709
Cold flex temperature	°C	~ -55	~ -60	~ -65	~ -65
Cold flex temperature	°F	~ -67	~ -76	~ -85	~ -85
Weight loss in i-octane after 4 hours at 60 °C	%	~ 2.4	~ 2.7	~ 11.0	~ 11.4

Summary: Differences of EDENOL® DOZ and DOS in this PVC formulation are small, in many cases within the accuracy of the measurement

S-PVC k 71	100 phr
CaZn stabilizer	2 phr
Epoxidized soy bean oil	3 phr
EDENOL® DOZ or DOS	40 or 70 phr

EDENOL® DOZ – the alternative to DOS



Conclusions

- EDENOL® DOZ can replace DOS as a plasticizer in typical DOS applications as belts, films/sheets/tarpaulins/artificial leather/flooring, gaskets/seals and cables; all for use at low temperature
- It works as a drop-in solution, so technically neither significant advantages nor disadvantages need to be considered
- However, we cannot expect short-term approval, as CAS # are different
- Both products are partially bio-based and food contact compliant according FDA CFR 21
- Emery has full access to the whole production chain of EDENOL® DOZ
- No availability limitations in the raw material oleic acid
- Next winter is coming, this will put pressure again on sebacic acid

→ Regarding safety of supply: You are on the safe side with EDENOL® DOZ