

JCL: TGG: RF
XF: 1995 12

Thomas G. Grumbles

CONOCO

To Bill Broddle

Date 3/28

I think the only question on these sheets would be the Tox Data for 810-40. The numbers I listed are from 610-50 and 1012-40.

~~exp~~ In particular the inhalation numbers are from different exposure times. The other sheets use data as follows:

610-60 - used 610-60 data
1216-30 - used 1216-22 data



VVV 000000583

Thomas G. Grumbles

CONOCO

to Dan Plummer

Date 3/28

Please check on the CAS #
for these products. I think
1216-30 and 610-60 are OK but
I'm not sure about 810-40. It
may be different enough to fall
under a different description.



VVV 000000584



JH: JOL: TGG: RF
XF: Haz Mat - 350

Interoffice Communication

To Sid Pitts
From Tom Grumbles
Date February 9, 1984
Subject DOT CLASSIFICATION FOR N-PARAFFINS

After our discussion concerning your comment on the two draft n-paraffins MSDSs, I investigated our n-paraffins DOT classifications in George Watson's list, MSDSs, the Shipping, Transfer and Storage Manual, and Technical Data Sheets. There is conflicting data in the literature cited above. However, it appears not all n-paraffins should be classed combustible. I have attached copies of the relevant documents.

The Shipping, Transfer and Storage Manual indicated all n-paraffins are combustible in the text, however, the flashpoints for 3 of the products listed in the table are above 200°F.

The Technical Data Sheet for n-paraffins indicates that only C1012 is combustible. Only four n-paraffins are listed on this sheet.

George Watson's most recent list indicated C1214 is combustible but this product's flashpoint is listed as 205-210. The MSDS for C1214 indicates it to be non-hazardous. The flashpoint data for this product should be checked since it is close to 200°F.

Two new n-paraffins C1011 (350 Solvent was C1011 that was hydrotreated) and C1316 are to be added to the n-paraffins line. C1011 is combustible (f.p. 131) and C1316 (f.p. 220) is non-hazardous.

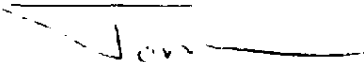
Based on discussions with the business area, below are the current n-paraffins that we move in some form and proper DOT classifications based on flash points listed.

<u>Product</u>	<u>Flashpoint</u>	<u>DOT Classification</u>
(new) C1011 (not 350)	131°F	Combustible
C1012	155°F	Combustible
C1016	160°F	Combustible
C1113	<187°F	Combustible
C1214	205-210°F	Non-Hazardous
C1216	210°F	Non-Hazardous
(new) C1316	220°F	Non-Hazardous

VVV 000000585

Sid Pitts
Page 2
February 9, 1984

If the above information is correct, I will move to have the technical data sources corrected where necessary. Please call to discuss.


Thomas G. Grumbles

ajo

cc Larry Hubbard
Don Wharry

VVV 000000586

PRODUCT: NORMAL PARAFFINS, SOLVENTS

Storage

Tank Materials of Construction:	Steel, built in accordance with standards set by Underwriters' Laboratories Subject No. 142, 58, or 80 or API Standard No. 12A, 650, 12B, or 12D.
Temperature Control:	None required.
Special Precautions:	Storage shall be in accordance with OSHA Federal Specifications Title 29, 1910.106, Flammable and Combustible Liquids.

Transfer

Lines:	Steel or nodular iron.
Hoses:	Teflon, butyl rubber, or neoprene lined.
Pumps:	Steel centrifugal or positive displacement with pressure relief discharge to tank or suction line.
Valves and Fittings:	Steel or nodular iron, vapor; and liquid-tight joints.
Gaskets:	Compressed asbestos. Viton preferred.
Heat:	None required.

Shipping

There are no DOT specifications for containers, but good shipping procedures would dictate conformance to specifications recommended for flammable liquids.

Tank Cars:	Steel or aluminum construction complying with NFPA Code 385 Tank Vehicle Design for Combustible and Flammable Liquids. Includes a reliable shutoff valve located inside the shell.
Tank Trucks:	Steel or aluminum construction complying with NFPA Code 385 Tank Vehicle Design for Combustible and Flammable Liquids. Includes a reliable shutoff valve located inside the shell.
Drums:	Tight head steel drums with 2- and 3/4-inch bungs.
Labels:	None required.
Placards:	Combustible 1270 Reference CFR 49, Part 172.544.

4-8-81

VVV 000000587

NORMAL PARAFFINS, SOLVENTS

Drum Marking: Petroleum Oil, N.O.S. Conoco Chemicals and address.

Shipping Paper Description: Petroleum Oil, N.O.S., ~~Combustible Liquid~~ NA 1270.
(Note: On rail shipments, the notation "Placarded Combustible" must be shown after description.)

Miscellaneous

Toxicity: NFPA Rating 0 as health hazard — no hazard.

Flammability: See individual classifications under Physical Properties.

Corrosion: Nil.

Stability: Chemically stable.

Spills:

First Aid, Personnel Wash.

Cleanup — Disposal Drain according to NFPA Code 30 or Federal Regulation 1910.106.
Dispose by burning.

Protective Equipment: Normal requirements.

SPECIFIC GRAVITY, 15.6°C (60°F)								
	1.20	1.21	1.22	1.23	1.24	1.25	1.26	1.27
Flash Point, °F								
	135	136	137	138	139	140	141	142
Melting Point, °F								
	-16	-25	-34	-43	-52	-61	-70	-79
Boiling Range, °F								
	300-446	342-386	375-406	435-482	440-501	503-546	570-613	590-620
Viscosity, cp at 68°F								
	5.5	2.5						
Vapor Pressure, mm. Hg								
30°F	28	48						
60°F	30	52						
100°F								8.12
Combustible Classification as Shown by "C"								
	C	C	C					
Auto Ignition, °F								
	405							

Conoco Normal Paraffins

Description:

Conoco normal paraffins are high purity, linear saturated paraffin blends of various molecular weights in the C_{10} - C_{16} carbon range. They are generally colorless, low odor, low viscosity liquids.

Applications:

Chemical Intermediate: Conoco n-paraffins readily undergo the various substitution reactions typical of paraffinic hydrocarbons.

Typical examples and applications of these are:

1. Chlorination to alkyl chlorides for use as alkylating agent for manufacture of linear alkylbenzene detergent alkylate
2. Chlorination to high level of chlorine content for use as flame retardant plasticizers and EP additives
3. Oxidation to alcohols
4. Nitration to nitro-alkanes and amines
5. Sulfoxidation or sulfochlorination for surfactant or plasticizer manufacture
6. Raw material for microbiological oxidation or fermentation processes

Solvent: Conoco n-paraffins find direct applications as solvents in many applications. Their high purity and low level of aromatics, olefins and other reactive types of impurities make them attractive for many food-related applications. All of the Conoco n-paraffin blends qualify as "odorless light petroleum hydrocarbons" as defined in the Code of Federal Regulations.

They may be used in all food and food contact applications which permit this type of solvent; see Code of Federal Regulations, Title 21, Paragraphs 121.1182, 121.2594, 121.2507.

Storage and Handling:

Conoco Paraffin 1012 is classified as combustible liquid and should be shipped in accordance with DOT regulations, Title 49, Sections 173.115 and 173.118.

A "Combustible Liquid" label is required for C_{10} - C_{12} ; see Sections 173.401, 173.541, 173.584 and 177.823. Handling should be in accordance with Department of Labor, Title 29, Section 1910.106.

The other paraffins are nonhazardous and do not have specific DOT shipping regulations. Storage in carbon steel tanks is suitable. Conventional lines, pumps, hoses and fittings are satisfactory for use.

Normal precautions against corrosion of equipment from water leaks or condensation should be taken.

Except for the combustibility, these products present no handling hazards. Normal, good operating procedures and housekeeping should ensure personnel safety.

In any event, normal care should be taken to avoid contact with eyes or prolonged contact with skin by the normal paraffins.

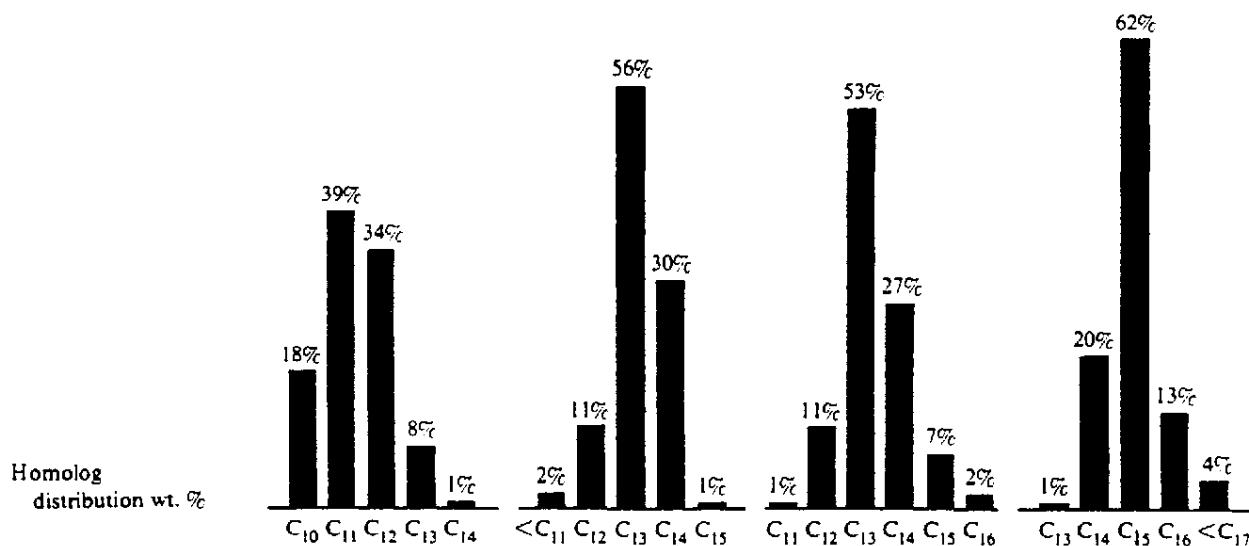
THE DATA CONTAINED HEREIN ARE FOR GENERAL INFORMATIONAL PURPOSES ONLY. PLEASE REFER TO THE CONOCO CHEMICALS COMPANY MATERIAL SAFETY DATA SHEET FOR SPECIFIC, COMPLETE INFORMATION REGARDING THIS PRODUCT.

100. Data Sheet

VVV 000000590

Properties	C₉-C₁₂ n-Paraffin Specification Typical		C₁₁-C₁₄ n-Paraffin Specification Typical		C₁₂-C₁₆ n-Paraffin Specification Typical		C₁₃-C₁₇ n-Paraffin Specification Typical	
Total n-Paraffin, wt. %	97.5 min.	98.1	97.0 min.	97.5	97.0 min.	97.3	96.0	96.5
Homolog distribution, wt. %								
C ₉ and lower	2.0 max.	0.4	—	—	—	—	—	—
C ₁₀	25.0 max.	18.3	2.0 max.*	0.8*	—	—	—	—
C ₁₀ + C ₁₁	50.0 min.	—	5.0 max.	—	—	—	—	—
C ₁₁	—	38.9	—	1.7	1.0 max.	0.5	—	—
C ₁₂	25.0 min.	33.9	—	10.6	8-25	11.0	—	—
C ₁₀ + C ₁₁ + C ₁₂	85.0 min.	—	—	—	—	—	—	—
C ₁₃	15.0 max.	8.0	—	55.3	—	53.0	2.0 max.	1.0
C ₁₄	2.0 max.	0.5	45.0 max.	30.4	—	27.0	25 max.	20.0
C ₁₃ + C ₁₄	—	—	70-90	—	—	—	—	—
C ₁₅	—	—	5.0 max.	1.2	—	7.0	—	61.9
C ₁₆	—	—	—	—	—	1.5	—	13.1
C ₁₇ +	—	—	—	—	—	—	6.0 max.	4.0
Average molecular weight	—	160	—	186	—	186	—	215
Aromatics, wt. %	1.0 max.	0.75	1.2 max.	0.82	1.5 max.	0.90	3.0 max.	2.20
Bromine number	0.2 max.	0.01	0.2 max.	0.02	0.2 max.	0.02	0.15 max.	0.07
Color, Saybolt	25 + min.	30 +	25 + min.	30 +	—	15 +	7.0 max. (Gardner)	5.0
Specific gravity, 60° F	—	0.745	—	0.756	—	0.767	—	0.776
Flash point, Pensky-Martens, ° F	—	155	—	210	—	210	—	250
Melting range, ° C	—	-22 to -25	—	-11 to -13	—	-3 to 0	—	3.5 to 4.5
Viscosity @ 60° F, CS	—	1.78	—	2.80	—	—	—	4.41
Distillation range, ° F	—	—	—	—	—	—	—	—
IBP	—	360	—	435	—	435	—	487
50%	—	386	—	453	—	—	—	500
95%	—	408	—	468	—	—	—	518
EP	—	446	—	482	—	558	—	546
Appearance	—	Water White Liquid	—	Water White Liquid	—	Clear Liquid	—	Clear Straw Liquid

*Includes C₁₀ and lower.



PRODUCT CODE	ABBREVIATED NAME	HAZARDOUS MATERIAL DESCRIPTION AND PROPER SHIPPING NAME	LAST UPDATE
253100	CA-531	ACID, LIQUID, N.O.S., CORROSIVE MATERIAL, NA 1760 "PLACARDED" CORROSIVE (49 314 04)	83/11/15
253200	CA-532	ACID, LIQUID, N.O.S., CORROSIVE MATERIAL, NA 1760 "PLACARDED" CORROSIVE (49 314 04)	83/11/15
254100	CA-541	ACID, LIQUID, N.O.S., CORROSIVE MATERIAL, NA 1760 "PLACARDED" CORROSIVE (49 314 04)	83/11/15
254200	CA-542	ACID, LIQUID, N.O.S., CORROSIVE MATERIAL, NA 1760 "PLACARDED" CORROSIVE (49 314 04)	83/11/15
254500	CA-545	ACID, LIQUID, N.O.S., CORROSIVE MATERIAL, NA 1760 "PLACARDED" CORROSIVE (49 314 04)	83/11/15
256000	CA 560	ACID, LIQUID, N.O.S., CORROSIVE MATERIAL, NA 1760 "PLACARDED" CORROSIVE (49 314 04)	83/11/15
258500	M-56	ACID, LIQUID, N.O.S., CORROSIVE MATERIAL, NA 1760 "PLACARDED" CORROSIVE (49 314 04)	83/11/15
280000	CRD NAT CRESYL I	ACID, LIQUID, N.O.S., CORROSIVE MATERIAL, NA 1760 "PLACARDED" CORROSIVE (49 314 04)	83/11/15
300000	C10-C12 NOR PAR	PETROLEUM OIL, N.O.S., COMBUSTIBLE LIQUID, NA 1270 "PLACARDED" COMBUSTIBLE (49 152 45)	83/11/15
300001	C10-C12 TO BALI	PETROLEUM OIL, N.O.S., COMBUSTIBLE LIQUID, NA 1270 "PLACARDED" COMBUSTIBLE (49 152 45)	83/11/15
300500	C11-C13 NOR PAR	PETROLEUM OIL, N.O.S., COMBUSTIBLE LIQUID, NA 1270 "PLACARDED" COMBUSTIBLE (49 152 45)	83/11/15
300600	C11-13 RECYCE P	PETROLEUM OIL, N.O.S., COMBUSTIBLE LIQUID, NA 1270 "PLACARDED" COMBUSTIBLE (49 152 45)	83/11/15
301100	<u>C12-C14 NOR PAR</u> 2007	PETROLEUM OIL, N.O.S., COMBUSTIBLE LIQUID, NA 1270 "PLACARDED" COMBUSTIBLE (49 152 45)	83/11/15
301500	C10-C11 NOR PAR	PETROLEUM OIL, N.O.S., COMBUSTIBLE LIQUID, NA 1270 "PLACARDED" COMBUSTIBLE (49 152 45)	83/11/15
304000	C10-C16 NOR PAR	PETROLEUM OIL, N.O.S., COMBUSTIBLE LIQUID, NA 1270 "PLACARDED" COMBUSTIBLE (49 152 45)	83/11/15
330000	SA-597	RQ DODECYLBENZENESULFONIC ACID, CORROSIVE MATERIAL, NA 2584 "PLACARDED" CORROSIVE (49 314 26)	83/11/15
331000	SA-697	RQ DODECYLBENZENESULFONIC ACID, CORROSIVE MATERIAL, NA 2584 "PLACARDED" CORROSIVE (49 314 26)	83/11/15
335100	C-550 SLURRY	RQ SODIUM DODECYLBENZENESULFONATE,ORM-E, NA 9146 (49 633 74)	83/11/15
335101	C-550 SLURRY	RQ SODIUM DODECYLBENZENESULFONATE,ORM-E, NA 9146 (49 633 74)	83/11/15
335300	C-560 SLURRY	RQ SODIUM DODECYLBENZENESULFONATE,ORM-E, NA 9146 (49 633 74)	83/11/15
335301	C-560 SLURRY	RQ SODIUM DODECYLBENZENESULFONATE,ORM-E, NA 9146 (49 633 74)	83/11/15

VVV 000000592

Gen. & Unrec. List