ISODECALDEHYDE

IDA

CAUTIONARY RESPONSE INFORMATION

Common Synonyms	Liquid	Colorless	Fruity odor
Isodecaldehyde, mixed isomers Trimethylheptanals	Floats on water.		

Keep people away.
Call fire department.
Avoid contact with liquid.
Notify local health and pollution control agencies.

Fire	Combustible. Extinguish with dry chemical, foam, or carbon dioxide. Water may be ineffective on fire. Cool exposed containers with water.
Exposure	CALL FOR MEDICAL AID. LIQUID Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water.
Water Pollution	Effect of low concentrations on aquatic life is unknown. Fouling to shoreline. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.

1. CORRECTIVE RESPONSE ACTIONS

Stop discharge
Contain
Collection Systems: Skim
Clean shore line
Salvage waterfowl

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: 19; Aldehyde
2.2 Formula: $C_9H_{19}CHO$
2.3 IMO/UN Designation: Not listed
2.4 DOT ID No.: Not listed
2.5 CAS Registry No.: Currently not available
2.6 NAERG Guide No.: Not listed
2.7 Standard Industrial Trade Classification: 51621

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: Protective clothing; chemical goggles.
3.2 Symptoms Following Exposure: Low general toxicity. Liquid may irritate eyes and skin.
3.3 Treatment of Exposure: Wash eyes and skin with plenty of water for at least 15 min.
3.4 TLV-TWA: Not listed.
3.5 TLV-STEL: Not listed.
3.6 TLV-Ceiling: Not listed.
3.7 Toxicity by Ingestion: Currently not available
3.8 Toxicity by Inhalation: Currently not available.
3.9 Chronic Toxicity: Currently not available
3.10 Vapor (Gas) Irritant Characteristics: Vapors cause a slight smarting of the eyes or respiratory system if present in high concentrations. The effect is temporary.
3.11 Liquid or Solid Characteristics: Minimum hazard. If spilled on clothing and allowed to remain, may cause smarting and reddening of the skin.
3.12 Odor Threshold: Currently not available
3.13 IDLH Value: Not listed.
3.14 OSHA PEL-TWA: Not listed.
3.15 OSHA PEL-STEL: Not listed.
3.16 OSHA PEL-Ceiling: Not listed.
3.17 EPA AEGL: Not listed

4. FIRE HAZARDS

4.1 Flash Point: 185°F O.C.
4.2 Flammable Limits in Air: Currently not available
4.3 Fire Extinguishing Agents: Foam, dry chemical, carbon dioxide
4.4 Fire Extinguishing Agents Not to Be Used: Not pertinent
4.5 Special Hazards of Combustion Products: Not pertinent
4.6 Behavior in Fire: Not pertinent
4.7 Auto Ignition Temperature: Currently not available
4.8 Electrical Hazards: Not pertinent
4.9 Burning Rate: Currently not available
4.10 Adiabatic Flame Temperature: Currently not available
4.11 Stoichometric Air to Fuel Ratio: 69.0 (calc.)
4.12 Flame Temperature: Currently not available
4.13 Combustion Molar Ratio (Reactant to Product): 20.0 (calc.)
4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed

5. CHEMICAL REACTIVITY

5.1 Reactivity with Water: No reaction
5.2 Reactivity with Common Materials: No reaction
5.3 Stability During Transport: Stable
5.4 Neutralizing Agents for Acids and Caustics: Not pertinent
5.5 Polymerization: Not pertinent
5.6 Inhibitor of Polymerization: Not pertinent

6. WATER POLLUTION

6.1 Aquatic Toxicity: Currently not available
6.2 Waterfowl Toxicity: Currently not available
6.3 Biological Oxygen Demand (BOD): Currently not available
6.4 Food Chain Concentration Potential: None
6.5 GESAMP Hazard Profile:
Bioaccumulation: T
Damage to living resources: 2
Human Oral hazard: 1
Human Contact hazard: I
Reduction of amenities: X

7. SHIPPING INFORMATION

7.1 Grades of Purity: Commercial
7.2 Storage Temperature: Ambient
7.3 Inert Atmosphere: No requirement
7.4 Venting: Open (flame arrester)
7.5 IMO Pollution Category: C
7.6 Ship Type: 3
7.7 Barge Hull Type: Currently not available

8. HAZARD CLASSIFICATIONS

8.1 49 CFR Category: Not listed
8.2 49 CFR Class: Not pertinent
8.3 49 CFR Package Group: Not listed.
8.4 Marine Pollutant: No
8.5 NFPA Hazard Classification:

Category	Classification
Health Hazard (Blue).....	0
Flammability (Red).....	2
Instability (Yellow).....	0

8.6 EPA Reportable Quantity: Not listed.
8.7 EPA Pollution Category: Not listed.
8.8 RCRA Waste Number: Not listed
8.9 EPA FWPCA List: Not listed

9. PHYSICAL & CHEMICAL PROPERTIES

9.1 Physical State at 15° C and 1 atm: Liquid
9.2 Molecular Weight: 156.28
9.3 Boiling Point at 1 atm: Currently not available
9.4 Freezing Point: Currently not available
9.5 Critical Temperature: Not pertinent
9.6 Critical Pressure: Not pertinent
9.7 Specific Gravity: (est.) 0.84 at 15° (liquid)
9.8 Liquid Surface Tension: (est.) 20 dynes/cm = 0.02 N/m at 20°C
9.9 Liquid Water Interfacial Tension: (est.) 40 dynes/cm = 0.04 N/m at 20°C
9.10 Vapor (Gas) Specific Gravity: Not pertinent
9.11 Ratio of Specific Heats of Vapor (Gas): Not pertinent
9.12 Latent Heat of Vaporization: Currently not available
9.13 Heat of Combustion: Currently not available
9.14 Heat of Decomposition: Not pertinent
9.15 Heat of Solution: Not pertinent
9.16 Heat of Polymerization: Not pertinent
9.17 Heat of Fusion: Currently not available
9.18 Limiting Value: Currently not available
9.19 Reid Vapor Pressure: 0.03 psia

NOTES

ISODECALDEHYDE

IDA

9.20 SATURATED LIQUID DENSITY	
Temperature (degrees F)	Pounds per cubic foot
41	52.430
42	52.430
43	52.430
44	52.430
45	52.430
46	52.430
47	52.430
48	52.430
49	52.430
50	52.430
51	52.430
52	52.430
53	52.430
54	52.430
55	52.430
56	52.430
57	52.430
58	52.430
59	52.430
60	52.430
61	52.430
62	52.430
63	52.430
64	52.430
65	52.430
66	52.430

9.21 LIQUID HEAT CAPACITY	
Temperature (degrees F)	British thermal unit per pound-F
50	0.478
51	0.478
52	0.478
53	0.478
54	0.478
55	0.478
56	0.478
57	0.478
58	0.478
59	0.478
60	0.478
61	0.478
62	0.478
63	0.478
64	0.478
65	0.478
66	0.478
67	0.478
68	0.478
69	0.478
70	0.478
71	0.478
72	0.478
73	0.478
74	0.478
75	0.478

9.22 LIQUID THERMAL CONDUCTIVITY	
Temperature (degrees F)	British thermal unit inch per hour-square foot-F
50	1.040
51	1.040
52	1.040
53	1.040
54	1.040
55	1.040
56	1.040
57	1.040
58	1.040
59	1.040
60	1.040
61	1.040
62	1.040
63	1.040
64	1.040
65	1.040
66	1.040
67	1.040
68	1.040
69	1.040
70	1.040
71	1.040
72	1.040
73	1.040
74	1.040
75	1.040

9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Centipoise
50	9.343
51	9.088
52	8.841
53	8.602
54	8.370
55	8.145
56	7.927
57	7.716
58	7.511
59	7.312
60	7.119
61	6.932
62	6.751
63	6.575
64	6.404
65	6.239
66	6.078
67	5.922
68	5.770
69	5.623
70	5.481
71	5.342
72	5.207
73	5.077
74	4.950
75	4.826

9.24 SOLUBILITY IN WATER	
Temperature (degrees F)	Pounds per 100 pounds of water
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9.25 SATURATED VAPOR PRESSURE	
Temperature (degrees F)	Pounds per square inch
180	0.223
190	0.281
200	0.352
210	0.437
220	0.540
230	0.663
240	0.809
250	0.981
260	1.184
270	1.421
280	1.698
290	2.018
300	2.389
310	2.815
320	3.303
330	3.860
340	4.493
350	5.211
360	6.021
370	6.934
380	7.958
390	9.103
400	10.380
410	11.800
420	13.380

9.26 SATURATED VAPOR DENSITY	
Temperature (degrees F)	Pounds per cubic foot
180	0.00508
190	0.00631
200	0.00777
210	0.00951
220	0.01157
230	0.01399
240	0.01683
250	0.02013
260	0.02395
270	0.02836
280	0.03341
290	0.03920
300	0.04578
310	0.05324
320	0.06167
330	0.07116
340	0.08180
350	0.09369
360	0.10690
370	0.12170
380	0.13800
390	0.15600
400	0.17580
410	0.19760
420	0.22140

9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	British thermal unit per pound-F
100	0.421
120	0.431
140	0.441
160	0.451
180	0.461
200	0.470
220	0.479
240	0.488
260	0.497
280	0.506
300	0.514
320	0.522
340	0.530
360	0.538
380	0.546
400	0.554
420	0.561
440	0.568
460	0.575
480	0.582
500	0.589
520	0.595
540	0.602
560	0.608
580	0.614
600	0.620