Material Safety Data Sheet Benzine

ACC# 16105

Section 1 - Chemical Product and Company Identification

MSDS Name: Benzine

Catalog Numbers: B264-20

Synonyms: Petroleum naphtha; Petroleum distillates; VM&P Naphtha HT.

Company Identification:

Fisher Scientific 1 Reagent Lane Fair Lawn, NJ 07410

For information, call: 201-796-7100 Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
64742-89-8	Solvent naphtha (petroleum), light aliphatic	100	265-192-2
111-65-9	Octane	1.5	203-892-1
142-82-5	n-Heptane	1.16	205-563-8
1330-20-7	Xylenes (o-, m-, p- isomers)	0.13	215-535-7
108-38-3	m-Xylene	0.05	203-576-3
100-41-4	Ethylbenzene	0.03	202-849-4
71-43-2	Benzene	0.015	200-753-7
108-88-3	Toluene	0.0118	203-625-9

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: light colored liquid.

Warning! Flammable liquid and vapor. Breathing vapors may cause drowsiness and dizziness. Prolonged or repeated contact causes defatting of the skin with irritation, dryness, and cracking. May cause eye irritation. Aspiration hazard if swallowed. Can enter lungs and cause damage.

Target Organs: Central nervous system, skin.

Potential Health Effects

Eye: May cause eye irritation. Vapors may cause eye irritation.

Skin: Causes skin irritation. Prolonged and/or repeated contact may cause defatting of the skin

and dermatitis. Not expected to cause an allergic skin reaction.

Ingestion: May cause central nervous system depression, characterized by excitement, followed

by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. Aspiration of material into the lungs may cause chemical pneumonitis, which may be fatal.

Inhalation: Inhalation of vapor may cause respiratory tract irritation. Inhalation of vapors may cause drowsiness and dizziness.

Chronic: Prolonged or repeated skin contact may cause defatting and dermatitis. Prolonged or repeated exposure affects the nervous system. This material has caused kidney effects in male rats which are not considered relevant to humans. Chronic hydrocarbon abuse (for example, sniffing glue or light hydrocarbons such as contained in this material) has been associated with irregular heart rhythms and potential cardiac arrest.

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for a t least 15 minutes. Get medical aid.

Skin: In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.

Ingestion: Potential for aspiration if swallowed. Get medical aid immediately. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If vomiting occurs naturally, have victim lean forward.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Water runoff can cause environmental damage. Dike and collect water used to fight fire. Vapors may form an explosive mixture with air. Use water spray to keep fire-exposed containers cool. Liquid will float and may reignite on the surface of water. Flammable liquid and vapor. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas.

Extinguishing Media: Do NOT use straight streams of water. For large fires, use water spray, fog or regular foam.

Flash Point: 14-18 deg C

Autoignition Temperature: 232 deg C (449.60 deg F)

Explosion Limits, Lower: 0.9% vol

Upper: 7.0% vol

NFPA Rating: (estimated) Health: 1; Flammability: 3; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8. **Spills/Leaks:** Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors. Water spray may reduce vapor but may not prevent ignition in closed spaces. Approach spill from upwind. Control runoff and isolate discharged material for proper

disposal. Under Section 311 of the Clean Water Act (CWA) this material is considered an oil. As such, spills into surface waters must be reported to the National Response Centre at 800-424-8802.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Take precautionary measures against static discharges. Keep container tightly closed. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Keep away from heat, sparks and flame. Avoid breathing vapor.

Storage: Keep away from sources of ignition. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Solvent naphtha (petroleum), light aliphatic	none listed	none listed	none listed
Octane	300 ppm TWA	75 ppm TWA; 350 mg/m3 TWA 1000 ppm IDLH	500 ppm TWA; 2350 mg/m3 TWA
n-Heptane	400 ppm TWA; 500 ppm STEL	85 ppm TWA; 350 mg/m3 TWA 750 ppm IDLH	500 ppm TWA; 2000 mg/m3 TWA
Xylenes (o-, m-, p- isomers)	100 ppm TWA; 150 ppm STEL	none listed	100 ppm TWA; 435 mg/m3 TWA
m-Xylene	100 ppm TWA; 150 ppm STEL	100 ppm TWA; 435 mg/m3 TWA 900 ppm IDLH	100 ppm TWA; 435 mg/m3 TWA (listed under Xylenes (o-, m-, p- isomers)).
Ethylbenzene	100 ppm TWA; 125 ppm STEL	100 ppm TWA; 435 mg/m3 TWA 800 ppm IDLH	100 ppm TWA; 435 mg/m3 TWA
Benzene	0.5 ppm TWA; 2.5 ppm STEL; Skin - potential significant contribution to overall exposure by the cutaneous r oute	0.1 ppm TWA 500 ppm IDLH	1 ppm TWA; 10 ppm TWA (applies to industry segments exempt from the benzene stan dard at 29 CFR 1910.1028); 25 ppm Ceiling (applies to industry segments exempt from the 1 ppm TWA and 5 ppm STEL of th e benzene standard); 0.5 ppm Action Level; 1 ppm TWA; 5 ppm STEL (Cancer hazard, Flammable - see 29 C FR 1910.1028)

50 ppm TWA; Skin - potential significant contribution to overall exposure by the cutaneous r oute	100 ppm TWA; 375 mg/m3 TWA 500 ppm IDLH	200 ppm TWA; 300 ppm Ceiling
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OSHA Vacated PELs: Solvent naphtha (petroleum), light aliphatic: No OSHA Vacated PELs are listed for this chemical. Octane: 300 ppm TWA; 1450 mg/m3 TWA n-Heptane: 400 ppm TWA; 1600 mg/m3 TWA Xylenes (o-, m-, p- isomers): 100 ppm TWA; 435 mg/m3 TWA m-Xylene: No OSHA Vacated PELs are listed for this chemical. Ethylbenzene: 100 ppm TWA; 435 mg/m3 TWA Benzene: 10 ppm TWA (unless specified in 1910.1028) Toluene: 100 ppm TWA; 375 mg/m3 TWA

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure. **Clothing:** Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Liquid Appearance: light colored

Odor: hydrocarbon-like - petroleum-like - mild odor

pH: Not available.

Vapor Pressure: 15 mm Hg @ 20 deg C

Vapor Density: 4.1 (air=1)

Evaporation Rate:1.3 (Butyl acetate=1)

Viscosity: Not available.

Boiling Point: 118.5 - 140.5 deg C **Freezing/Melting Point:**Not available. **Decomposition Temperature:**Not available.

Solubility: Negligible.

Specific Gravity/Density:0.74 @ 20/20°C **Molecular Formula:**C5 to C10 hydrocarbons

Molecular Weight: Not available.

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures. **Conditions to Avoid:** Ignition sources, excess heat, confined spaces. **Incompatibilities with Other Materials:** Strong oxidizing agents.

Hazardous Decomposition Products: Carbon monoxide in cases of incomplete combustion,

carbon dioxide.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

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RTECS#:
CAS# 64742-89-8 unlisted.
CAS# 111-65-9: RG8400000
CAS# 142-82-5: MI7700000
CAS# 1330-20-7: ZE2100000
CAS# 108-38-3: ZE2275000
CAS# 100-41-4: DA0700000
CAS# 71-43-2: CY1400000
CAS# 108-88-3: XS5250000
LD50/LC50:
Not available.
CAS# 111-65-9:
   Inhalation, rat: LC50 = 118 \text{ gm/m}3/4\text{H};
CAS# 142-82-5:
   Inhalation, rat: LC50 = 103 \text{ gm/m}3/4\text{H};
CAS# 1330-20-7:
   Draize test, rabbit, eye: 87 mg Mild;
   Draize test, rabbit, eye: 5 mg/24H Severe;
   Draize test, rabbit, skin: 100% Moderate;
   Draize test, rabbit, skin: 500 mg/24H Moderate;
   Inhalation, rat: LC50 = 5000 \text{ ppm/4H};
   Oral, mouse: LD50 = 2119 \text{ mg/kg};
   Oral, rat: LD50 = 4300 \text{ mg/kg};
   Skin, rabbit: LD50 = >1700 \text{ mg/kg};
CAS# 108-38-3:
   Draize test, rabbit, eye: 5 mg/24H Severe;
   Draize test, rabbit, skin: 20 mg/24H Moderate;
   Inhalation, mouse: LC50 = 5267 ppm/6H;
   Oral, rat: LD50 = 4988 \text{ mg/kg};
   Skin, rabbit: LD50 = 14100 \text{ uL/kg};
CAS# 100-41-4:
   Draize test, rabbit, eye: 500 mg Severe;
   Inhalation, mouse: LC50 = 35500 \text{ mg/m}3/2H;
   Inhalation, rat: LC50 = 55000 \text{ mg/m}3/2H;
   Oral, rat: LD50 = 3500 \text{ mg/kg};
   Oral, rat: LD50 = 3500 \text{ mg/kg};
   Skin, rabbit: LD50 = 17800 \text{ uL/kg};
CAS# 71-43-2:
   Dermal, quinea pig: LD50 = >9400 \text{ uL/kg};
   Draize test, rabbit, eye: 88 mg Moderate;
   Draize test, rabbit, eye: 2 mg/24H Severe;
   Draize test, rabbit, skin: 20 mg/24H Moderate;
   Inhalation, mouse: LC50 = 9980 ppm;
   Inhalation, mouse: LC50 = 24 \text{ mL/kg/2H};
   Inhalation, rat: LC50 = 10000 \text{ ppm/7H};
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Inhalation, rat: LC50 = 34 \text{ mL/kg/2H};
   Inhalation, rat: LC50 = 6.5 \text{ mL/kg/4H};
   Oral, mouse: LD50 = 4700 \text{ mg/kg};
   Oral, rat: LD50 = 930 \text{ mg/kg};
   Oral, rat: LD50 = 1 \text{ mL/kg};
   Oral, rat: LD50 = 1800
CAS# 108-88-3:
   Draize test, rabbit, eye: 870 ug Mild;
   Draize test, rabbit, eye: 2 mg/24H Severe;
   Draize test, rabbit, skin: 435 mg Mild;
   Draize test, rabbit, skin: 500 mg Moderate;
   Draize test, rabbit, skin: 20 mg/24H Moderate;
   Inhalation, mouse: LC50 = 400 ppm/24H;
   Inhalation, mouse: LC50 = 30000 \text{ mg/m}3/2\text{H};
   Inhalation, mouse: LC50 = 19900 mg/m3/7H;
   Inhalation, mouse: LC50 = 10000 mg/m3;
   Inhalation, rat: LC50 = 49 \text{ gm/m}3/4\text{H};
   Oral, rat: LD50 = 636 \text{ mg/kg};
   Skin, rabbit: LD50 = 14100
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Carcinogenicity:

CAS# 64742-89-8: Not listed by ACGIH, IARC, NTP, or CA Prop 65. CAS# 111-65-9: Not listed by ACGIH, IARC, NTP, or CA Prop 65. CAS# 142-82-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65. CAS# 1330-20-7: Not listed by ACGIH, IARC, NTP, or CA Prop 65. CAS# 108-38-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65. CAS# 100-41-4:

• ACGIH: A3 - Confirmed animal carcinogen with unknown relevance to humans

• California: carcinogen, initial date 6/11/04

• NTP: Not listed.

• **IARC:** Group 2B carcinogen

CAS# 71-43-2:

• ACGIH: A1 - Confirmed Human Carcinogen • California: carcinogen, initial date 2/27/87

• NTP: Known carcinogen • **IARC:** Group 1 carcinogen

CAS# 108-88-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found Teratogenicity: No information found

Reproductive Effects: No information found

Mutagenicity: No information found

Neurotoxicity: Xylene may be ototoxic (damages hearing or enhances sensitivity to noise) in

chronic occupational exposures, probably from a neurotoxic mechanism.

Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.

Environmental: Terrestrial Fate: Benzine has low to high mobility in the soil. Volatilization is expected from both moist and dry soils. It is expected to biodegrade in soil conditions. Aquatic:

Volatilization is expected to be rapid. Volatilization half-lives from a model river and lake can be estimated at 2.5-2.7 hours. Bioconcentration in aquatic organisms is not expected to be important. It will biodegrade naturally in water. Atmospheric: Will exist primarily as the vapor phase. It will degrade by reactions with photochemically produced hydroxyl radicals with an estimated half-life of 4-8 days.

Physical: No information available. **Other:** No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series:

CAS# 1330-20-7: waste number U239 (Ignitable waste, Toxic waste).

CAS# 71-43-2: waste number U019 (Ignitable waste, Toxic waste).

CAS# 108-88-3: waste number U220.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	PETROLEUM DISTILLATES, N.O.S.	No information available.
Hazard Class:	3	
UN Number:	UN1268	
Packing Group:	II	

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 64742-89-8 is listed on the TSCA inventory.

CAS# 111-65-9 is listed on the TSCA inventory.

CAS# 142-82-5 is listed on the TSCA inventory.

CAS# 1330-20-7 is listed on the TSCA inventory.

CAS# 108-38-3 is listed on the TSCA inventory.

CAS# 100-41-4 is listed on the TSCA inventory.

CAS# 71-43-2 is listed on the TSCA inventory.

CAS# 108-88-3 is listed on the TSCA inventory.

Health & Safety Reporting List

Sunset 6/19/97 CAS# 108-88-3: Effective 10/4/82, Sunset 10/4/92

Chemical Test Rules

CAS# 142-82-5: 40 CFR 799.5115

Section 12b

CAS# 142-82-5: Section 4

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

CAS# 1330-20-7: 100 lb final RQ; 45.4 kg final RQ
CAS# 108-38-3: 1000 lb final RQ; 454 kg final RQ
CAS# 100-41-4: 1000 lb final RQ; 454 kg final RQ
CAS# 71-43-2: 10 lb final RQ (receives an adjustable RQ of 10 lbs based on potential carcinoge
CAS# 108-88-3: 1000 lb final RQ; 454 kg final RQ

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 64742-89-8: immediate, fire. CAS # 111-65-9: immediate, fire.

CAS # 142-82-5: immediate, delayed, fire.

CAS # 1330-20-7: immediate, delayed, fire.

CAS # 108-38-3: immediate, delayed, fire.

CAS # 100-41-4: immediate, delayed, fire.

CAS # 71-43-2: immediate, delayed, fire.

CAS # 108-88-3: immediate, fire.

Section 313

Xylenes (o-, m-, p- isomers) is not at a high enough concentration to be reportable under Section 313.

m-Xylene is not at a high enough concentration to be reportable under Section 313.

Ethylbenzene is not at a high enough concentration to be reportable under Section 313.

Benzene is not at a high enough concentration to be reportable under Section 313.

Toluene is not at a high enough concentration to be reportable under Section 313. No chemicals are reportable under Section 313.

Clean Air Act:

CAS# 1330-20-7 is listed as a hazardous air pollutant (HAP).

CAS# 108-38-3 is listed as a hazardous air pollutant (HAP).

CAS# 100-41-4 is listed as a hazardous air pollutant (HAP).

CAS# 71-43-2 is listed as a hazardous air pollutant (HAP).

CAS# 108-88-3 is listed as a hazardous air pollutant (HAP).

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

CAS# 1330-20-7 is listed as a Hazardous Substance under the CWA. CAS# 108-38-3 is listed as a Hazardous Substance under the CWA. CAS# 100-41-4 is listed as a Hazardous Substance under the CWA. CAS# 71-43-2 is listed as a Hazardous Substance under the CWA. CAS# 108-88-3 is listed as a Hazardous Substance under the CWA. CAS# 100-41-4 is listed as a Priority Pollutant under the Clean Water Act. CAS# 71-43-2 is listed as a Priority Pollutant under the Clean Water Act. CAS# 108-88-3 is listed as a Priority Pollutant under the Clean Water Act. CAS# 71-43-2 is listed as a Toxic Pollutant under the Clean Water Act. CAS# 108-88-3 is listed as a Toxic Pollutant under the Clean Water Act.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 64742-89-8 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

CAS# 111-65-9 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

CAS# 142-82-5 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

CAS# 1330-20-7 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

CAS# 108-38-3 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, (listed as Xylenes (o-, m-, p- isomers)), Massachusetts.

CAS# 100-41-4 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

CAS# 71-43-2 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

CAS# 108-88-3 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

WARNING: This product contains Ethylbenzene, a chemical known to the state of California to cause cancer. WARNING: This product contains Benzene, a chemical known to the state of California to cause cancer. WARNING: This product contains Benzene, a chemical known to the state of California to cause male reproductive toxicity. WARNING: This product contains Benzene, a chemical known to the state of California to cause developmental reproductive toxicity. California No Significant Risk Level: CAS# 71-43-2: 6.4 æg/day NSRL (oral); 13 æg/day NSRL (inhalation)

European/International Regulations European Labeling in Accordance with EC Directives Hazard Symbols:

F

Risk Phrases:

R 11 Highly flammable.

R 65 Harmful: may cause lung damage if swallowed.

R 67 Vapours may cause drowsiness and dizziness.

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.

S 24/25 Avoid contact with skin and eyes.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 53 Avoid exposure - obtain special instructions before use.

S 28B After contact with skin, wash immediately with plenty of water and soap.

WGK (Water Danger/Protection)

CAS# 64742-89-8: No information available.

CAS# 111-65-9: 1

CAS# 142-82-5: 1

CAS# 1330-20-7: 2

CAS# 108-38-3: No information available.

CAS# 100-41-4: 1

CAS# 71-43-2: 3

CAS# 108-88-3: 2

Canada - DSL/NDSL

CAS# 64742-89-8 is listed on Canada's DSL List.

CAS# 111-65-9 is listed on Canada's DSL List.

CAS# 142-82-5 is listed on Canada's DSL List.

CAS# 1330-20-7 is listed on Canada's DSL List.

CAS# 108-38-3 is listed on Canada's DSL List.

CAS# 100-41-4 is listed on Canada's DSL List.

CAS# 71-43-2 is listed on Canada's DSL List.

CAS# 108-88-3 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of B2, D2B.

This product has been classified in accordance with the hazard criteria of the Controlled Products

Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 111-65-9 is listed on the Canadian Ingredient Disclosure List.

CAS# 142-82-5 is listed on the Canadian Ingredient Disclosure List.

CAS# 1330-20-7 is not listed on the Canadian Ingredient Disclosure List.

CAS# 108-38-3 is listed on the Canadian Ingredient Disclosure List.

CAS# 100-41-4 is listed on the Canadian Ingredient Disclosure List.

CAS# 71-43-2 is listed on the Canadian Ingredient Disclosure List.

CAS# 108-88-3 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 5/13/1998 Revision #7 Date: 9/11/2006

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.