

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name NASHUA 398 Spray Adhesive
Manufacturer/Supplier Tyco Plastics and Adhesives
Address 25 Forge Parkway
Franklin, MA 02038
Phone Number (800) 248-7659 (Monday – Friday 8:00 am to 5:00 pm)
Chemtrec Number (800) 424-9300
Revision Date:
MSDS Date: August 29, 2005
This MSDS has been compiled in accordance with - EC Directive 91/155/EC - OSHA's Hazcom Standard (29 CFR 1910.1200)

2. COMPOSITION/INFORMATION ON THE COMPONENTS

Component Name	CAS#/Codes	Concentration	R Phrases	Classification
Hexane	110-54-3 203-777-6	25.0%	R11, R38, R48/20, R62, R65, R67, R51/53	F; Xn; N
Acetone	67-64-1 200-662-2	25.0%	R11, R36, R66, R67	F; Xi
Propane	74-98-6 200-827-9	25.0%	R12	F+
Dimethyl Ether	115-10-6 204-065-8	15.0%	R12	F+
Polymers and Resins	N.A.	10.0%	None	None

3. HAZARD IDENTIFICATION**EU Main Hazards**

R11Highly flammable.
R36/38Irritating to eyes and skin.
R48/20Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R51/53Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R62Possible risk of impaired fertility.
R65Harmful: may cause lung damage if swallowed.
R67Vapours may cause drowsiness and dizziness.

Routes of Entry

- Absorption - Eye contact - Ingestion - Inhalation - Skin contact

Carcinogenic Status

Not considered carcinogenic by NTP, IARC, and OSHA.

Target Organs

- Central Nervous System - Skin - Eye - Liver - Kidney - Respiratory System - Reproductive

Health Effects - Eyes

Liquid, mist or vapor may cause pain, transient irritation and superficial corneal effects.

3. HAZARD IDENTIFICATION

Health Effects - Skin

Material may cause irritation. Repeated or prolonged contact may produce defatting of the skin leading to irritation and dermatitis. Material can be absorbed through the skin and cause effects similar to those resulting from inhalation.

Health Effects - Ingestion

Swallowing may have the following effects:

- abdominal pain - vomiting - central nervous system depression - kidney damage - liver damage - testis damage - aspiration into lungs may occur during ingestion or vomiting causing lung damage

A large dose may have the following effects:

- systemic effects similar to those resulting from inhalation

Health Effects - Inhalation

Exposure to vapor may have the following effects:

- irritation of nose, throat and respiratory tract - central nervous system depression - dizziness - drowsiness - headache - mental confusion

Exposure to vapor at high concentrations may have the following effects:

- nerve damage leading to numbness and muscle weakness - lung damage - liver damage - kidney damage - testis damage

4. FIRST AID MEASURES

Eyes

Immediately flood the eye with plenty of water for at least 15 minutes, holding the eye open. Obtain medical attention if soreness or redness persists.

Skin

Immediately flood the skin with large quantities of water for at least 15 minutes, preferably under a shower. Remove contaminated clothing and continue washing. Contaminated clothing should be washed or dry-cleaned before re-use. Obtain medical attention if blistering occurs or redness persists.

Ingestion

Do not induce vomiting. Have victim drink 1-3 glasses of water to dilute stomach contents. If there is difficulty in breathing, give oxygen. Obtain medical attention immediately.

Inhalation

Remove from exposure. If there is difficulty in breathing, give oxygen. Obtain medical attention immediately.

Advice to Physicians

Mineral oil, baby oil, makeup remover or other similar mild solvent may be used to remove the sticky resin residue left by the adhesive.

5. FIRE FIGHTING MEASURES

Extinguishing Media

Use foam, dry chemical or carbon dioxide. Be aware of the possibility of re-ignition. Keep containers and surroundings cool with water spray.

Unusual Fire and Explosion Hazards

Vapors can travel a considerable distance to a source of ignition and flashback. Flashback can occur if air temperature exceeds flash point. Be aware of possibility of re-ignition. For aerosol products - exposure to temperature over 130°F may cause containers to burst and release highly flammable gas.

Protective Equipment for Fire-Fighting

Wear full protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Contain and absorb using earth, sand or other inert material. Transfer into suitable containers for recovery or disposal. Wear appropriate protective clothing. Eliminate all sources of ignition. Use non-sparking scoops for flammable materials. Vapors can accumulate in low areas. Consider need for evacuation. Prevent the material from entering drains or watercourses. Notify authorities if spill has entered watercourse or sewer or has contaminated soil or vegetation.

7. HANDLING AND STORAGE

Keep from reach of children. Do not puncture, incinerate or place aerosol product containers in compactors. Use in well ventilated area. Use local exhaust ventilation. Avoid inhaling vapor. Avoid contact with eyes, skin and clothing. Keep container tightly closed when not in use. Do not flame cut, braze or use welding torch on container. Intentional misuse by deliberately concentrating or inhaling the vapors from this product may be harmful or fatal.

Store away from sources of heat or ignition. Storage area should be: - cool - dry - well ventilated - away from incompatible materials - out of direct sunlight – away from sources of ignition(heat, sparks, flames, pilot lights) Do not store above 120°F.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Standards

Exposure limits are listed below, if they exist.

Hexane

ACGIH: TLV 50ppm (176mg/m³) 8h TWA. (skin)

OSHA: PEL 500ppm (1800) mg/m³) 8h TWA.

Can be absorbed through skin.

Acetone

ACGIH: TLV 500ppm (1188mg/m³) 8h TWA.

ACGIH(STEL): 750 ppm(1782 mg/m³) 15min.

OSHA: PEL 1000ppm (2400) mg/m³) 8h TWA.

Propane

ACGIH: TLV 1000 ppm (varies) 8h TWA.

Dimethyl Ether

None Established

Engineering Control Measures

Engineering methods to prevent or control exposure are preferred. Methods include process or personnel enclosure, mechanical ventilation (dilution and local exhaust), and control of process conditions.

Respiratory Protection

Respiratory protection if there is a risk of exposure to high vapor concentrations. The specific respirator selected must be based on the airborne concentration found in the workplace and must not exceed the working limits of the respirator.

Hand Protection

Butyl gloves are recommended.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye Protection

Chemical goggles or safety glasses with side shields

Body Protection

If there is danger of splashing, wear: - overall or apron

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Color	Yellow
Odor	Mint like
pH	Not applicable
Specific Gravity	0.7003
Boiling Range/Point (°C/F)	-42 to 244 (-44 to 472)
Melting Point (°C/F)	Not determined
Flash Point (PMCC) (°C/F)	-104/-156
Vapor Pressure	Not determined
Evaporation Rate	Faster than butyl acetate
Solubility in Water	Negligible
Vapor Density (Air = 1)	Heavier than air
Viscosity (cSt)	Not determined
Lower Explosive Limit/Upper Explosive Limit	1.0%/18.0%
VOC (g/l)	378 g/l total product (476 g/l less water and exempt)

10. STABILITY AND REACTIVITY

Stability

Stable under normal conditions.

Conditions to Avoid

- Heat, sparks, flames - High temperatures –sources of ignition – welding arcs – pilot lights – static electricity

Materials to Avoid

- Strong oxidizing agents - acids – bases - reducing agents – strong oxidizers

Hazardous Polymerization

Will not occur.

Hazardous Decomposition Products

- oxides of carbon - acetic acid – oxides of sulfur – oxides of nitrogen – various hydrocarbons

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Hexane: LD50 rat >15,000 mg/kg. LD50 rabbit >2,000 mg/kg.

Acetone: LD50 rat >5,800 mg/kg. LD50 rabbit 20,000 mg/kg.

Dimethyl Ether: LC50 rat 308 g/m3

11. TOXICOLOGICAL INFORMATION

Chronic Toxicity/Carcinogenicity

Not expected to cause long term adverse health effects.

Genotoxicity

This product is not expected to cause any mutagenic effects.

Reproductive/Developmental Toxicity

Hexane: Studies with laboratory animals have indicated this chemical may affect the reproductive system. Excessive oral consumption may cause male sperm effects. When maternal toxicity occurred slight fetotoxicity but no teratogenicity was also observed in these animals

12. ECOLOGICAL INFORMATION

Mobility

No relevant studies identified.

Persistence/Degradability

No relevant studies identified.

Bio-accumulation

No relevant studies identified.

Ecotoxicity

Acetone: LC50 Rainbow trout (*Oncorhynchus mykiss*) 96 h 5,540 mg/l. EC50 *Daphnia magna* 48 h 7,635 mg/l

13. DISPOSAL

Dispose of in accordance with all applicable local and national regulations. Labels should not be removed from containers until they have been cleaned. Do not cut, puncture or weld on or near to the container. Use non-sparking tools. Do not incinerate closed containers. Empty containers may contain hazardous residues. Dispose of containers with care.

14. TRANSPORT INFORMATION

DOT CFR 172.101 Data	Consumer Commodity, ORM-D (US ground shipment only)
UN Proper Shipping Name	Aerosols
UN Class	(2.1)
UN Number	UN1950
UN Packaging Group	None
Classification for AIR Transportation (IATA)	Consult current IATA Regulations prior to shipping by air.

15. REGULATORY INFORMATION

EU Label Information

Classification and labelling have been performed according to EU directives 67/548/EEC and 99/45/EC including amendments.

EU Hazard Symbol and Indication of Danger

Xn - Harmful

N- Dangerous for the environment

F- Highly flammable

15. REGULATORY INFORMATION

R phrases

R11 Highly flammable.

R36/38 Irritating to eyes and skin.

R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R62 Possible risk of impaired fertility.
R65 Harmful: may cause lung damage if swallowed.
R67 Vapours may cause drowsiness and dizziness.

S phrases

S 9 Keep container in a well-ventilated place.
S 16 Keep away from sources of ignition. - No smoking.
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 33 Take precautionary measures against static discharges.
S 36/37 Wear suitable protective clothing and gloves.
S 62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

US REGULATIONS (Federal, State) and INTERNATIONAL CHEMICAL REGISTRATION LAWS**TSCA Listing**

All ingredients have been verified for inclusion on the EPA Toxic Substance Control Act Chemical Substance Inventory.

EINECS Listing

All ingredients in this product have not been verified for inclusion on the European Inventory of Existing Commercial Chemical Substances (EINECS) or specifically exempted.

DSL (Canadian) Listing

All ingredients in this product have not been verified for inclusion on the Domestic Substance List (DSL).

MA Right To Know Law

All components have been checked for inclusion on the Massachusetts Substance List (MSL). Those components present at or above the de minimus concentration include: - Hexane (110-54-3) – Acetone (67-64-1) - Propane (74-98-6) – Dimethyl ether (115-10-6)

PA Right To Know Law

This product contains the following chemicals found on the Pennsylvania Hazardous Substance List: - Hexane (110-54-3) – Acetone (67-64-1) - Propane (74-98-6) – Dimethyl ether (115-10-6)

NJ Right To Know Law

This product contains the following chemicals found on the NJ Right To Know Hazardous Substance List: - Hexane (110-54-3) – Acetone (67-64-1) - Propane (74-98-6) – Dimethyl ether (115-10-6)

California Proposition 65

This product does not contain materials which the State of California has found to cause cancer, birth defects or other reproductive harm.

SARA Title III Sect. 302 (EHS)

This product does not contain any chemicals subject to SARA Title III Section 302.

SARA Title III Sect. 304

The following chemicals have reportable quantities: - Hexane (110-54-3) 5000# – Acetone (67-64-1) 5000# - Propane (74-98-6) – Dimethyl ether (115-10-6)

SARA Title III Sect. 311/312 Categorization

Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard, Fire Hazard, Sudden Release of Pressure

15. REGULATORY INFORMATION

SARA Title III Sect. 313

This product contains a chemical that is listed in Section 313 at or above de minimis concentrations. The following listed chemicals are present: - Hexane (110-54-3)

16. OTHER INFORMATION

NFPA Ratings

NFPA Code for Flammability - 4
NFPA Code for Health - 2
NFPA Code for Reactivity - 0
NFPA Code for Special Hazards – None

HMIS Ratings

HMIS Code for Flammability - 4
HMIS Code for Health - 2
HMIS Code for Reactivity - 0
HMIS Code for Personal Protection - See Section 8

Abbreviations

N/A: Denotes no applicable information found or available
CAS#: Chemical Abstracts Service Number
ACGIH: American Conference of Governmental Industrial Hygienists
OSHA: Occupational Safety and Health Administration
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
STEL: Short Term Exposure Limit
NTP: National Toxicology Program
IARC: International Agency for Research on Cancer
R: Risk
S: Safety

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