

**1. PRODUCT AND COMPANY IDENTIFICATION**

**Product Name** NASHUA 357 Spray Adhesive  
**Manufacturer/Supplier** Covalence 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:** June 30, 2006  
**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	20.0%	R12	F+
Dimethyl Ether	115-10-6 204-065-8	15.0%	R12	F+
C12-C14 Isoalkanes	68551-19-9	5.0%	None	None
Polymers and Resins	N.A.	10.0%	None	None

**3. HAZARD IDENTIFICATION**
**EU Main Hazards**

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.

**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.

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### 3. HAZARD IDENTIFICATION

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**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 the 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

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### 4. FIRST AID MEASURES

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**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.

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### 5. FIRE FIGHTING MEASURES

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**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.

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**5. FIRE FIGHTING MEASURES**

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**Protective Equipment for Fire-Fighting**

Wear full protective clothing and self-contained breathing apparatus.

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**6. ACCIDENTAL RELEASE MEASURES**

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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.

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**7. HANDLING AND STORAGE**

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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.

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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

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**Occupational Exposure Standards**

Exposure limits are listed below, if they exist.

**Hexane**

ACGIH: TLV 50ppm (176mg/m<sup>3</sup>) 8h TWA. (skin)

OSHA: PEL 500ppm (1800) mg/m<sup>3</sup>) 8h TWA.

Can be absorbed through skin.

**Acetone**

ACGIH: TLV 500ppm (1188mg/m<sup>3</sup>) 8h TWA.

ACGIH(STEL): 750 ppm(1782 mg/m<sup>3</sup>) 15min.

OSHA: PEL 1000ppm (2400) mg/m<sup>3</sup>) 8h TWA.

**Propane**

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

**Dimethyl Ether**

None Established

**C12-C14 Isoalkanes**

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.

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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

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**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.

**Eye Protection**

Chemical goggles or safety glasses with side shields

**Body Protection**

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

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

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<b>Physical State</b>	Liquid
<b>Color</b>	White
<b>Odor</b>	Mint like
<b>pH</b>	Not applicable
<b>Specific Gravity</b>	0.6995
<b>Boiling Range/Point (°C/F)</b>	-42 to 244 (-44 to 472)
<b>Melting Point (°C/F)</b>	Not determined
<b>Flash Point (PMCC) (°C/F)</b>	-104/-156
<b>Vapor Pressure</b>	Not determined
<b>Evaporation Rate</b>	Faster than butyl acetate
<b>Solubility in Water</b>	Negligible
<b>Vapor Density (Air = 1)</b>	Heavier than air
<b>Viscosity (cSt)</b>	Not determined
<b>Lower Explosive Limit/Upper Explosive Limit</b>	1.0%/18.0%
<b>VOC (g/l)</b>	378 g/l total product (491 g/l less water and exempt)

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**10. STABILITY AND REACTIVITY**

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**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

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**11. TOXICOLOGICAL INFORMATION**

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**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/m<sup>3</sup>

**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

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**12. ECOLOGICAL INFORMATION**

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**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

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**13. DISPOSAL**

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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.

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**14. TRANSPORT INFORMATION**

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<b>DOT CFR 172.101 Data</b>	Consumer Commodity, ORM-D (US ground shipment only)
<b>UN Proper Shipping Name</b>	Aerosols
<b>UN Class</b>	(2.1)
<b>UN Number</b>	UN1950
<b>UN Packaging Group</b>	None
<b>Classification for AIR Transportation (IATA)</b>	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

**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.

S16 Keep away from sources of ignition. - No smoking.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S33 Take precautionary measures against static discharges.

S36/37 Wear suitable protective clothing and gloves.

S62 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.

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**15. REGULATORY INFORMATION**

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**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

**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)

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**16. OTHER INFORMATION**

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**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

**For further information email:** [Technical.Adhesives@covcorp.com](mailto:Technical.Adhesives@covcorp.com)

**Prepared By:** EnviroNet LLC.

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