

## SAFETY DATA SHEET

### Delta 411 Heavy Duty Spray Adhesive

#### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

##### 1.1. Product identifier

Product name Delta 411 Heavy Duty Spray Adhesive  
Product No. D411

##### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses Spray Adhesive

##### 1.3. Details of the supplier of the safety data sheet

Supplier Delta Adhesives Ltd  
Units 39-41 Claycliffe Business Park  
Cannon Way, Barugh Green  
Barnsley, South Yorkshire  
S75 1JU  
Tel: 01226 381 571  
Fax: 01226 381722  
www.delta-adhesives.co.uk

##### 1.4. Emergency telephone number

National Emergency Telephone Number  
Delta Adhesives Ltd +44 (0) 1226 381 571 (Mon-Fri 09:00 - 17:00)

#### SECTION 2: HAZARDS IDENTIFICATION

##### 2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical and Chemical Hazards	Flam. Aerosol 1 - H222
Human health	Carc. 2 - H351
Environment	Not classified.

Classification (1999/45/EEC) Carc. Cat. 3;R40. F+;R12.

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Human health

In high concentrations, vapours and spray mists are narcotic and may cause headache, fatigue, dizziness and nausea. Limited evidence of a carcinogenic effect. In case of overexposure, organic solvents may depress the central nervous system causing dizziness and intoxication, and at very high concentrations unconsciousness and death.

Environment

The product is not expected to be hazardous to the environment.

Physical and Chemical Hazards

Pressurised container: Must not be exposed to temperatures above 50°C. The product is extremely flammable, and explosive vapour/air mixtures may be formed even at normal room temperatures.

##### 2.2. Label elements

Contains DICHLOROMETHANE

Label In Accordance With (EC) No. 1272/2008



Signal Word

Danger

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### Hazard Statements

H222 Extremely flammable aerosol.  
H351 Suspected of causing cancer.

### Precautionary Statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
P211 Do not spray on an open flame or other ignition source.  
P251 Pressurized container: Do not pierce or burn, even after use.  
P281 Use personal protective equipment as required.  
P261 Avoid breathing vapour/spray.  
P271 Use only outdoors or in a well-ventilated area.  
P410+412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F.

### Supplementary Precautionary Statements

P308+313 IF exposed or concerned: Get medical advice/attention.  
P501 Dispose of contents/container in accordance with national regulations.

### 2.3. Other hazards

H229 Pressurised container: May burst if heated.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.2. Mixtures

DICHLOROMETHANE	30-60%
CAS-No.: 75-09-2	EC No.: 200-838-9
Registration Number: 01-2119480404-41	
Classification (EC 1272/2008) Carc. 2 - H351	Classification (67/548/EEC) Carc. Cat. 3;R40
PROPANE	10-30%
CAS-No.: 74-98-6	EC No.: 200-827-9
Registration Number: 01-2119486944-21	
Classification (EC 1272/2008) Flam. Gas 1 - H220	Classification (67/548/EEC) F+;R12
BUTANE/ISOBUTANE	10-30%
CAS-No.: 106-97-8	EC No.: 203-448-7
Registration Number: 01-2119474691-32	
Classification (EC 1272/2008) Flam. Gas 1 - H220	Classification (67/548/EEC) F+;R12.
BUTANONE	1-5%
CAS-No.: 78-93-3	EC No.: 201-159-0
Registration Number: 01-2119457290-43	
Classification (EC 1272/2008) Flam. Liq. 2 - H225 EUH066 Eye Irrit. 2 - H319 STOT SE 3 - H336	Classification (67/548/EEC) F;R11 Xi;R36 R66 R67

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

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## SECTION 4: FIRST AID MEASURES

### **4.1. Description of first aid measures**

General information

Move the exposed person to fresh air at once.

Inhalation

Move the exposed person to fresh air at once. Perform artificial respiration if breathing has stopped. Keep the affected person warm and at rest. Get prompt medical attention.

Ingestion

Immediately rinse mouth and provide fresh air. Do not induce vomiting. Get medical attention if any discomfort continues.

Skin contact

Wash skin with soap and water. Get medical attention if any discomfort continues.

Eye contact

Immediately rinse with water. Continue to rinse for at least 15 minutes. Make sure to remove any contact lenses from the eyes before rinsing. Get medical attention promptly if symptoms occur after washing.

### **4.2. Most important symptoms and effects, both acute and delayed**

General information

Prolonged and repeated contact with solvents over a long period may lead to permanent health problems. The severity of the symptoms described will vary dependant of the concentration and the length of exposure.

Inhalation

In high concentrations, vapours are anaesthetic and may cause headache, fatigue, dizziness and central nervous system effects. In case of overexposure, organic solvents may depress the central nervous system causing dizziness and intoxication, and at very high concentrations unconsciousness and death.

Ingestion

There may be soreness and redness of the mouth and throat. May cause stomach pain or vomiting. Fumes from the stomach contents may be inhaled resulting in the same symptoms as inhalation.

Skin contact

Prolonged contact may cause redness, irritation and dry skin.

Eye contact

There may be irritation and redness. Eyes may water profusely.

### **4.3. Indication of any immediate medical attention and special treatment needed**

Show this safety data sheet to the doctor in attendance.

## SECTION 5: FIREFIGHTING MEASURES

### **5.1. Extinguishing media**

Extinguishing media

Water spray, foam, dry powder or carbon dioxide.

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

### **5.2. Special hazards arising from the substance or mixture**

Hazardous combustion products

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

Unusual Fire & Explosion Hazards

Extremely flammable. Forms explosive mixtures with air. May explode in a fire. Vapours are heavier than air and may spread near ground to sources of ignition.

Specific hazards

Pressurised container: Must not be exposed to temperatures above 50°C. Aerosol containers can explode when heated, due to excessive pressure build-up.

### **5.3. Advice for firefighters**

Special Fire Fighting Procedures

Use water spray to reduce vapours. Aerosol cans may explode in a fire. Cool aerosol containers exposed to heat with water spray and remove container, if no risk is involved.

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Protective equipment for fire-fighters

Self contained breathing apparatus and full protective clothing must be worn in case of fire.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions, protective equipment and emergency procedures

Wear protective clothing as described in Section 8 of this safety data sheet. Ensure suitable personal protection (including respiratory protection) during removal of spillages in a confined area. Do not breathe vapour. Do not smoke, use open fire or other sources of ignition.

### 6.2. Environmental precautions

Avoid discharge into drains.

### 6.3. Methods and material for containment and cleaning up

Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Absorb in vermiculite, dry sand or earth and place into containers. Provide ventilation and confine spill. Do not allow runoff to sewer.

### 6.4. Reference to other sections

Wear protective clothing as described in Section 8 of this safety data sheet. For waste disposal, see section 13.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for safe handling

Wear appropriate personal protective equipment (see Section 8) Keep away from heat, sparks and open flame. Read and follow manufacturer's recommendations. Avoid inhalation of vapours and spray mists. Do not spray on a naked flame or any incandescent material. When sprayed on a naked flame or any incandescent material the aerosol vapours can be ignited. Provide good ventilation. Do not eat, drink or smoke when using the product.

### 7.2. Conditions for safe storage, including any incompatibilities

Extremely flammable. Store at moderate temperatures in dry, well ventilated area. Keep away from heat, sparks and open flame. Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Storage Class

Extremely Flammable Aerosol

### 7.3. Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

Name	STD	TWA - 8 Hrs		STEL - 15 Min		Notes
BUTANE/ISOBUTANE	WEL	600 ppm		750 ppm		
BUTANONE	WEL	200 ppm(Sk)	600 mg/m3(Sk)	300 ppm(Sk)	899 mg/m3(Sk)	
DICHLOROMETHANE	WEL	100 ppm(Sk)	350 mg/m3(Sk)	300 ppm(Sk)	1060 mg/m3(Sk)	
PROPANE	WEL	1000 ppm	1800 mg/m3			

WEL = Workplace Exposure Limit.

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## BUTANONE (CAS: 78-93-3)

DNEL				
Consumer	Oral	Long Term	Systemic Effects	31 mg/kg/day
Consumer	Dermal	Long Term	Systemic Effects	412 mg/kg/day
Consumer	Inhalation.	Long Term	Systemic Effects	106 mg/m <sup>3</sup>
Industry	Inhalation.	Long Term	Systemic Effects	600 mg/m <sup>3</sup>
PNEC				
Freshwater	Long Term	55.8	mg/l	
Marinewater	Long Term	55.8	mg/l	
Intermittent release	Intermittent release	55.8	mg/l	
STP	Long Term	709	mg/l	
Sediment	Long Term	284.7	mg/kg	
Soil	Long Term	22.5	mg/kg	

### **8.2. Exposure controls**

#### Protective equipment



#### Process conditions

Ensure suitable ventilation of area.

#### Engineering measures

Observe occupational exposure limits and minimize the risk of inhalation of vapours.

#### Respiratory equipment

No specific recommendation made, but respiratory protection must be used if the general level exceeds the recommended occupational exposure limit. In case of inadequate ventilation use suitable respirator.

#### Hand protection

For prolonged or repeated skin contact use suitable protective gloves. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material. (Sk) noted above means can be absorbed through skin.

#### Eye protection

Wear approved chemical safety goggles where eye exposure is reasonably probable.

#### Other Protection

Provide eyewash station.

#### Hygiene measures

When using do not eat, drink or smoke. Wash promptly if skin becomes wet or contaminated. **DO NOT SMOKE IN WORK AREA!**

#### Personal protection

Wear protective work clothing.

#### Skin protection

Wear suitable gloves if prolonged or repeated skin contact is likely

## **SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

### **9.1. Information on basic physical and chemical properties**

Appearance	Aerosol.
Colour	Light (or pale).
Odour	Chlorinated hydrocarbons.
Solubility	Insoluble in water
Initial boiling point and boiling range (°C)	40 Deg.C @ 760 mm Hg
Relative density	Boiling point of dichloromethane. 1.18 @ 20 Deg.C
Evaporation rate	Density of adhesive liquid. 27.5
Viscosity	For dichloromethane (n Butyl Acetate =1) ~300 mPas @ 20 Deg.C Density of liquid base.

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Odour Threshold, Lower	100ppm For dichloromethane
Odour Threshold, Upper	280ppm For dichloromethane
Flash point (°C)	<-40 Deg.C
Auto Ignition Temperature (°C)	410-580
Flammability Limit - Lower(%)	1.8%
Flammability Limit - Upper(%)	9.5%
Partition Coefficient (N-Octanol/Water) Dichloromethane	log Pow 1.25
Comments	A flash point method is not available for aerosols but the major hazardous component, the Propellant has flash point of <-40 C with flammability limits of 9.5% vol. upper and 1.8% vol. lower. Auto ignition temperature is 410/580 C.

### **9.2. Other information**

Not available.

## **SECTION 10: STABILITY AND REACTIVITY**

### **10.1. Reactivity**

Stable under recommended transport or storage conditions.

### **10.2. Chemical stability**

Highly volatile.

### **10.3. Possibility of hazardous reactions**

No known hazardous reactions if stored under normal conditions.

Hazardous Polymerisation

Will not polymerise.

### **10.4. Conditions to avoid**

Avoid heat, flames and other sources of ignition. Avoid exposure to high temperatures or direct sunlight.

### **10.5. Incompatible materials**

Materials To Avoid

Aluminium

### **10.6. Hazardous decomposition products**

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

## **SECTION 11: TOXICOLOGICAL INFORMATION**

### **11.1. Information on toxicological effects**

General information

Prolonged and repeated contact with solvents over a long period may lead to permanent health problems. Contains small amounts of organic solvents. Extensive use of the product in areas with inadequate ventilation may result in hazardous vapour concentrations.

Inhalation

Harmful by inhalation. Contains organic solvents which in case of overexposure may depress the central nervous system causing dizziness and intoxication. High exposures may cause an abnormal heart rhythm and prove suddenly fatal. Very high atmospheric concentrations may cause anaesthetic effects and asphyxiation.

Ingestion

Ingestion may cause similar symptoms to that of inhalation.

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### Skin contact

Contains a substance that maybe harmful through skin absorption. Prolonged and frequent contact may cause redness and irritation. Repeated exposure may cause skin dryness or cracking.

### Eye contact

Irritating to eyes. Spray and vapour in the eyes may cause irritation and smarting.

### Health Warnings

In high concentrations, vapours are narcotic and may cause headache, fatigue, dizziness and nausea. Arrhythmia, (deviation from normal heart beat). Limited evidence of carcinogenic effect. Harmful through skin absorption (percutaneous)

### Route of entry

Inhalation. Skin absorption.

### Target Organs

Central nervous system Respiratory system, lungs

### Medical Symptoms

Narcotic effect. Vapours may cause drowsiness and dizziness.

### Toxicological information on ingredients.

#### PROPANE (CAS: 74-98-6)

#### Acute toxicity:

Acute Toxicity (Inhalation LC50)

> 20 mg/l (vapours) Rat 4 hours

#### DICHLOROMETHANE (CAS: 75-09-2)

Toxic Dose 1 - LD 50

4770 mg/kg (oral-mouse)

Toxic Dose 2 - LD 50

5350 mg/kg (oral rat)

#### Acute toxicity:

Acute Toxicity (Inhalation LC50)

88 mg/l (vapours) Rat 4 hours

#### Aspiration hazard:

##### General information

Prolonged and repeated contact with solvents over a long period may lead to permanent health problems.

##### Inhalation

Harmful by inhalation. Vapours have a narcotic effect and may cause headache, fatigue, dizziness and nausea.

##### Ingestion

May cause soreness and redness of mouth and throat. Ingestion may cause similar symptoms to that of inhalation.

##### Skin contact

Prolonged contact may cause redness, irritation and dry skin. Absorption of organic solvents through the skin can cause the same effects as inhalation Contains a substance that maybe harmful through skin absorption. Harmful in contact with skin.

##### Eye contact

There maybe irritation and redness. Eyes may water profusely

##### Health Warnings

Limited evidence of carcinogenic effect. Harmful through skin absorption (percutaneous) Harmful

##### Route of entry

Inhalation. Skin absorption. Ingestion.

##### Target Organs

Blood Central nervous system Liver Kidneys Skin Respiratory system, lungs

Narcotic effect. Drowsiness. Dizziness.

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## SECTION 12: ECOLOGICAL INFORMATION

### **12.1. Toxicity**

Not regarded as dangerous for the environment

### **12.2. Persistence and degradability**

No data available.

Degradability

The degradability of the product has not been stated.

Ecological information on ingredients.

#### **PROPANE (CAS: 74-98-6)**

Expected to be readily biodegradable. Oxidises rapidly by photo-chemical reactions in air.

### **12.3. Bioaccumulative potential**

Bioaccumulative potential

Dichloromethane has low bioaccumulative potential

Partition coefficient

log Pow 1.25

Dichloromethane

### **12.4. Mobility in soil**

Mobility:

The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces. The product is volatile, insoluble with water and is heavier than water.

### **12.5. Results of PBT and vPvB assessment**

Not determined

Ecological information on ingredients.

#### **PROPANE (CAS: 74-98-6)**

Not Classified as PBT/vPvB by current EU criteria.

### **12.6. Other adverse effects**

None known.

## SECTION 13: DISPOSAL CONSIDERATIONS

General information

Ensure containers are empty before discarding (explosion risk). Do not puncture or incinerate even when empty. Dispose of waste and residues in accordance with local authority requirements.

### **13.1. Waste treatment methods**

Make sure containers are empty before discarding (explosion risk). Do not puncture or incinerate even when empty. Dispose of waste and residues in accordance with local authority requirements.

Waste Class

Full or Partially Empty Aerosol: 16 05 04, Empty Aerosol: 15 01 10 (Containing hazardous residues). Empty Aerosol: 15 01 04 (No hazardous residues).

## SECTION 14: TRANSPORT INFORMATION

General

This product is packed in accordance with the Limited quantity Provisions of CDGCPL2, ADR and IMDG. These provisions allow the transport of aerosols of less than 1 litre packed in cartons of less than 30kg gross weight to be exempt from control providing they are labelled in accordance with the requirements of those regulations to show that they are transported as Limited Quantities. Aerosols not so packed must show the following.

### **14.1. UN number**



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UN No. (ADR/RID/ADN)	1950
UN No. (IMDG)	1950
UN No. (ICAO)	1950

### **14.2. UN proper shipping name**

Proper Shipping Name                    AEROSOLS

### **14.3. Transport hazard class(es)**

ADR/RID/ADN Class	2, 5F
ADR/RID/ADN Class	Class 2: Gases
ADR Label No.	2.1
IMDG Class	2.1
ICAO Class/Division	2.1
Transport Labels	



### **14.4. Packing group**

ADR/RID/ADN Packing group	#
IMDG Packing group	#
ICAO Packing group	#

### **14.5. Environmental hazards**

Environmentally Hazardous Substance/Marine Pollutant  
No.

### **14.6. Special precautions for user**

EMS	F-D, S-U
Tunnel Restriction Code	(D)

### **14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

## **SECTION 15: REGULATORY INFORMATION**

### **15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Uk Regulatory References

Health and Safety at Work Act 1974. Chemicals (Hazard Information & Packaging) Regulations. The Control of Substances Hazardous to Health Regulations 2002 (S.I 2002 No. 2677) with amendments.

Statutory Instruments

Control of Substances Hazardous to Health. The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (S.I 2009 No. 716).

Approved Code Of Practice

Safety Data Sheets for Substances and Preparations. Classification and Labelling of Substances and Preparations Dangerous for Supply.

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## Guidance Notes

ECHA: Guidance on the Compilation of safety data sheets. (V1.1, December 2011)

## EU Legislation

Dangerous Preparations Directive 1999/45/EC. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 with amendments. Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments. Commission Directive 2000/39/EC of 8 June 2000 establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

## National Regulations

The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (S.I 2009 No. 716). The Aerosol Dispensers Regulations 2009 (SI 2824) The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 ("CDG 2009"), SI 2009 No 1348 Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

Authorisations (Title VII Regulation 1907/2006)

No specific authorisations are noted for this product.

Restrictions (Title VIII Regulation 1907/2006)

No specific restrictions of use are noted for this product.

## **15.2. Chemical Safety Assessment**

No chemical safety assessment has been carried out.

## **SECTION 16: OTHER INFORMATION**

Issued By	Technical Service Manager
Revision Date	27 November 2014
Revision	2
Supersedes date	27 June 2013
SDS No.	11544
Date	27 November 2014
Risk Phrases In Full	
R12	Extremely flammable.
R11	Highly flammable
R36	Irritating to eyes.
R40	Limited evidence of a carcinogenic effect.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.
Hazard Statements In Full	
EUH066	Repeated exposure may cause skin dryness or cracking.
H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.

## Disclaimer

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in a process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.