

**Emniyet esasları cetveli  
(AT) kararnamesi uyarınca, No: 1907/2006**



Ürün ismi	Ethyl acetate, urethane grade	EU/TR
MSDS No.	80034	Revize Edildiği Tarih
Revizyon numarası	5***.01***	Yayın tarihi

## **1. Madde / Müstahzar ve Sirket / Is Sahibinin Tanitimi**

Ürün ismi  
**Ethyl acetate**

REACH Kayıt Numarası  
01-2119475103-46-0003  
01-2119475103-46-0002

Son kullanma tarihi:  
Çözgen

Ürün hakkında bilgi

Acil durumlarda kullanilabilecek telefon numarasi

## **2. TEHLİKELERİN TANITIMI**

### **Classification according to Regulation 1272/2008/EC (CLP)**

Sınıflandırma Esasları Bu madde, 1272/2008/EC nolu Yönetmelik ve ona ait değişiklikleri (CLP Mevzuatı, GHS) baz alarak sınıflandırılmıştır

#### **Classification**

Tehlikenin niteliği	Kategori
Alev alabilir sıvı	Kategori 2
Spesifik hedef organ sistemik zehirlilik (tek maruz kalma)	Kategori 3

Sembol(ler)



Sinyal Kelime

Tehlike

Tehlike Açıklamaları

H225 - Yüksek derecede alev alabilir sıvı ve buhar  
H336 - Baş dönmesi ve uyuşukluğa neden olabilir

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Önlem Açıklamaları	<p>P210 - Isı/ kıvılcım/ açık alevden/ ıcak yüzeylerden uzak tutunuz. -Sigara içilmez P235 - Soğuk tutunuz P240 - Kabı ve alıcı donanımları topraklayınız/bağlayınız P241 - Patlamaya dayanıklı elektrik/ havalandırma/ aydınlatma cihazları kullanınız P242 - Yalnızca kıvılcım çıkarmayan aletler kullanınız P243 - Statik elektrik oluşmasını engellemek için önlem alınız P261 - Toz/ is/ gaz/ buhar/ spreyini solumaktan kaçınınız P271 - Yalnızca açık havada veya havalandırması iyi olan yerlerde kullanınız P280 - Koruma eldiveni/ koruyucu giysi/ göz koruması/ yüz koruması kullanınız P303 + P361 + P353 - DERİYE BULAMIŞSA (ya da saça): Hemen tüm bulaşmış giyisileri çıkarınız. Deriyi suyla yıkayınız P304 + P340 - SOLUNMASI HALİNDE: Kazazedeyi açık havaya çıkarıp nefes alması kolay bir pozisyonda dinlendiriniz P312 - Kendinizi iyi hissetmezseniz, ZEHİR MERKEZİ/ doktora başvurunuz P370 + P378 - Yangın halinde: Yangını söndürmek için su spreyi kullanınız P403 + P233 - Havalandırması iyi olan yerde saklayınız. Sıkı kapatılmış kaptaki muhafaza edin P405 - Kilit altında saklayınız P501 - Dispose of contents/container in accordance with local regulations.</p>	
EC Tehlikenin niteliği	EUH066 - Tekrarlanan maruz kalmalarda deride kuruluğa ve çatlaklara neden olabilir	
Other Hazards	The substance does not meet the criteria for PBT / vPvB according to REACH, Annex XIII***	
<b>67/548/EEC veya 1999/45/EC no'lu Direktife uygun etiketlendirme ve sınıflandırma</b>		
Sınıflandırma Esasları	Bu ürün 67/548/EEC direktifinin VI. ekine uygun olarak sınıflandırılmıştır	
Tehlike göstergesi	Oldukça yanıcı	
R -cümlesi/ R-cümleleri	<p>R11 - Kolay alevlenebilir. R66 - Tekrarlanan maruz kalmalarda deride kuruluğa ve çatlaklara neden olabilir. R67 - Buharları uyuşukluğa ve baş dönmesine neden olabilir.</p>	
S kodlu cümle(ler)	<p>S16 - Tutusturucu kaynaklardan uzak tutun - sigara içmeyin. S33 - Statik elektrik boşalimlarına karsi önlem alın.</p>	

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### **3. BİLEŞİMİ / İÇİNDEKİLER HAKKINDA BİLGİ**

Kimyasal Özellikleri Acetic acid ethyl ester

Bileşenleri	CAS-No	EC-No.	Identification Number	Yüzde %
Ethyl acetate	141-78-6	205-500-4	607-022-00-5	min 99.7

Bileşenleri	67/548/EEC	1272/2008/EC (CLP)	Tehlike Açıklamaları
Ethyl acetate	F;R11 R66 R67	Flammable liquid - Category 2 STOT SE - Category 3	H225 H336 EUH066

### **4 . İLK YARDIM TEDBİRLERİ**

Genel bilgiler	Kirlenmiş, ıslak giysileri derhal çıkartınız ve emin şekilde uzaklaştırınız. Kişisel korunmaya dikkat ediniz.. In any case show the physician the Safety Data Sheet.
Solunum	Kipirdatmayınız. Temiz havaya çıkartınız. Hemen bir doktor çağırınız.
Deri	Kirli tüm giysilerinizi ve ayakkabılarınızı hemen çıkartıp bol miktarda su ve sabun ile yıkayınız. Semptomlar devam ederse doktora başvurunuz.
Gözler	Hemen bol miktarda su ile göz kapaklarının altı dahil olmak en az 15 dakika boyunca iyice yıkayınız. Hemen bir doktor çağırınız.
Yutma, ağızdan alma	Bol miktarda su ile yıkayınız. Yutulması halinde kusturmayınız- doktora başvurunuz.
Doktor için uyarılar ***	
Belli baslı semptomlar	Buhari, gözlerde, solunum sisteminde ve deride tahrise neden olabilir, Yüksek konsantrasyonlarda buhar solunumu, CNS depresyonuna ve narkoza neden olabilir.
Tedavi	Semptomatik tedavi uygulayınız. Akciğerin tahris olması halinde ilk tedaviyi Junik aerosol (sprey) ile yapınız (Declometasondipropionate). Yutma halinde aktif karbon ve salinik laksatif verilmesi tavsiye olunur..

### **5. YANGINLA MÜCADELE TEDBİRLERİ**

Uygun yangın söndürme aletleri  
Köpük, Kuru kimyasal, Karbon dioksit (CO2)\*\*\*

Güvenlik nedeniyle kullanılmaması gereken yangın söndürme aletleri  
Yüksek basınçlı su kullanmayınız. Çünkü yangının sıçramasına ve yayılmasına neden olabilir.

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## Maddenin/karışımın kendisinden, yanma maddelerinden ya da açığa çıkan gazlardan dolayı meydana gelen özel maruz kalma tehlikeleri

Tamamen bir yanma gerçekleşmediginde, açığa çıkan zararlı gazlar sunlardan oluşabilir  
Karbon monoksit  
karbon dioksit (CO<sub>2</sub>)  
Organik malzemelerin yanma gazları prensip olarak solunuma zehirli olarak sınıflandırılmalıdır  
Havadan ağır buharlar zemin üzerinde yoğunlaşabilir

## Yangın söndürme için özel koruyucu ekipmanlar

oksijen tüplü komple maske (EN 133).

## Çevresel tedbirler

Suyun sızması çevreye zarar verebilir. Yangın söndürmede kullanılan suların dağılmasını önleyerek bir yerde toplayınız.

## Diğer bilgi

Tankaları/kapları su spreji ile soğutunuz.

## 6. KAZA SONUCU YAYILMAYA KARŞI TEDBİRLER

### Kişisel tedbirler

Deri ve göz temasından kaçınınız. Isıdan ve tutuşmaya yol açabilecek herşeyden uzak tutunuz. Uygun havalandırma sağlayınız.

### Çevresel tedbirler

Daha fazla sızıntı ve dökülme olmasını önleyiniz. Kanalizasyona/yüzey sularına/yeraltı sularına deşarj etmeyiniz.

### Temizlik için metodlar

Eylemsiz emici bir malzeme ( kum, silika jel, asit, evrensel tutkal, talaş v.s.) ile absorbe etmesini sağlayınız. Atıkları kapalı ve bu iş için uygun kapalı kaplarda saklayınız. Yerel kurallara uygun olarak yerleştiriniz.

### Ek Bilgiler

Consult trained personnel. Consider the information for "Personal Protection" in chapter 8 of this Safety Data Sheet.

## 7. KULLANMA VE DEPOLAMA

### Tasima

#### Hijyen ölçütleri

Çalışırken sigara dahil herhangi birşey yiyip içmeyiniz. Kirli olan giysilerinizi hemen çıkarınız. Ürün tasidiktan hemen sonra ve çalışmaya ara vermeden önce ellerinizi yıkayınız.

#### Dikkatli kullanılmasını sağlayınız

Çalışma ortamında yeterli hava değişimi ve/veya egsozu olmalıdır.

#### Uygun olmayan, uyumsuz ürünler

'den uzak tutun: Peroksitler, Kuwetli asitler, Oksitleyici maddeler, Aminler

#### Yangın ve patlamadan korunma hakkında bilgiler

Tutuşmaya neden olabilecek herşeyden uzak tutunuz. Sigara içmeyiniz. Statik elektrik deşarjına engel olmak için gerekli önlemleri alınız . Malzemeyi başka yere aktarırken kapları topraklayınız ve bağlayınız. Yangın durumunda acilen soğutabilmek için su hazır olmalıdır.

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**Reduce the release of the substance or mixture to the environment**  
Bkz Bölüm 8: Çevresel etkilene kontrolleri

**Isı sınıfı**  
T2

**Depolama**

**Malzemenin saklanması**  
Kuru, soğuk ve iyi havalandırılmış bir yerde saklayınız.

**Uygun olmayan, uyumsuz ürünler**  
'den uzak tutun:, Peroksitler, Kuwetli asitler, Oksitleyici maddeler, Aminler

**Teknik kriterler/Depolama koşulları**  
Kuru, soğuk ve iyi havalandırılmış bir yerde ağız sıkıca kapalı olarak saklayınız. Kabı dikkatlice taşıyınız ve açınız.

**Alman saklama sınıfı**  
3A: Alevlenebilir sıvı maddeler.

**8. MARUZ KALMA KONTROLLERİ / KİŞİSEL KORUNMA**

**EC Maruz kalma sınır değerleri**  
Maruz kalma sınırı belirlenmemiş\*\*\*

**Ulusal mesleki maruziyet limitleri (Germany)**

Bileşenleri	TRGS 900 (AGW )	STEL Factor
Ethyl acetate	1500 mg/m <sup>3</sup>	400 PPM
		2

**Maruziyet limitleri ACGIH**

Bileşenleri	TWA
Ethyl acetate	400 PPM

**DNELs**

**Acute - Systemic Effect**

Worker (oral):	gerekli değildir
Worker (dermal):	gerekli değildir
Worker (inhalation):	1468 mg/m <sup>3</sup>
General Population (oral):	gerekli değildir
General Population (dermal):	gerekli değildir
General Population (inhalation):	734 mg/m <sup>3</sup>

**Acute - Local Effect**

Worker (oral):	gerekli değildir
Worker (dermal):	gerekli değildir
Worker (inhalation):	1468 mg/m <sup>3</sup>
General Population (oral):	gerekli değildir

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General Population (dermal): gerekli değildir  
General Population (inhalation): 734 mg/m<sup>3</sup>

**Long-term - Systemic Effects**

Worker (oral): gerekli değildir  
Worker (dermal): 63 mg/kg bw/d  
Worker (inhalation): 734 mg/m<sup>3</sup>  
General Population (oral): gerekli değildir  
General Population (dermal): 37 mg/kg bw/d  
General Population (inhalation): 367 mg/m<sup>3</sup>

**Long-term - Local Effects**

Worker (oral): gerekli değildir  
Worker (dermal): gerekli değildir  
Worker (inhalation): 734 mg/m<sup>3</sup>  
General Population (oral): gerekli değildir  
General Population (dermal): gerekli değildir  
General Population (inhalation): 367 mg/m<sup>3</sup>

**PNECs**

Environment (water): 0.26 mg/l  
Environment (air): gerekli değildir  
Environment (soil): 0.22 mg/kg soil dw  
Environment (sediment): 0.34 mg/kg sediment dw  
Environment (STP): 650 mg/l

**Maruz kalma kontrolleri**

**Mühendislik ölçütleri**

Çalışanların maruz kalmasını sadece genel veya dağılımlı havalandırma ile önlemek çoğu zaman yetersiz kalır; yerel havalandırma genelde tercih edilir. Mekanik havalandırma sistemlerinde patlamaya karşı dayanıklı ekipman (örn. vantilatörler, şalterler ve topraklanmış kablolar) kullanılmalıdır.

**Kisisel koruyucu ekipmanlar**

**Genel öneri** Deri ve gözlerle temasından kaçınınız. Sprey dumanını veya buharını solumayınız. Yalnızca emniyet düşünün olduğu yerlerde kullanınız. Göz banyosunu hazır bulundurunuz.

**Hijyen ölçütleri**

Çalışırken sigara dahil herhangi birsey yiyip içmeyiniz. Kirlenmiş olan giysilerinizi hemen çıkarınız. Ürün tasidiktan hemen sonra ve çalışmaya ara vermeden önce ellerinizi yıkayınız.

**Solunum sisteminin korunması** If aerosols or vapors are present, respiratory protection is required (gas filter A) .

**Gözlerin korunması** yüze tam oturan güvenlik gözlükleri. Yüze sıçrama olasılığı mevcut ise koruyucu gözlüğe ilâveten aynı zamanda bir de yüz maskesi kullanınız. Ekipman EN 166 ya uygun olmalıdır.

**Deri korunması** su geçirmez giysi

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Ellerin korunması	Kimyeviye karsi dayanikli eldiven
Uygun malzeme Tip	bütül kauçuk Butoject (Company KCL) veya kıyaslanabilir ürün kullanınız; gerekirse eldiven imalatçisi ile danisma
Değerlendirme Malzemenin kalınlığı	EN 374'e göre: Kademe 4 yak. (yaklaşık) 0.7 mm
Emilim süresi	yak. (yaklaşık) 120 min

**Çevreye yayılma kontrolleri:**

Do not discharge into the drains/surface waters/groundwater

**Çevresel tedbirler**

Çevreye bırakılmamalıdır

## **9. FİZİKSEL VE KİMYASAL ÖZELLİKLER**

**Görünüm**

Form	sivi
Renk	renksiz
Koku	meyveli

Koku Eşiği	0.006 - 0.686 mg/l (gas in air)
Molekül ağırlığı	88.11 g/mol
Parlama noktası	-4°C
Metod	kapalı kap
Tutuşma sıcaklığı	427°C
Bozunma sıcaklığı	saptanmamıştır
Maruz kalma alt sınırı	2.2 % hacim
Maruz kalma üst sınırı	11.5 %hacim
Yanıcılık (katılar)	Uygulanamaz
Erime noktası/aralığı	-83.8°C
Kaynama noktası/aralığı	77.1°C @ 1013 hPa
Yogunluk	0.9003 g/ml @ 20°C
pH	not determined
Viskozite	0.4508 mPa*s @ 20°C
Buhar basıncı	98.3 hPa @ 20°C 379 hPa @ 50°C
Buhar yoğunluğu	3.04 (Air=1)
Buharlaşma oranı	4.5 (n-Butyl acetate = 1)
Suda çözünürlüğü	80 g/l @ 25°C
Diğer çözücüler içindeki çözünürlüğü	miscible with, Ethanol, Diethyl ether, very soluble in, Acetone, Benzene
Partisyon katsayısı (n-octanol/su)	0.68(hesaplanmıştır)
Patlayıcı özellikleri	not applicable based on consideration of the structure
Oksitleyici özellikleri	not applicable based on consideration of the structure
Yüzey gerilimi	24 mN/m @ 20°C
Ayrışma sabiti	not applicable based on consideration of the structure

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## 10. KARARLILIK VE TEPKİME

Reactivity	Normal kullanım ve taşıma şartları altında sabit
Kimyasal stabilite	Belirtildiği şekilde kullanıldığında bozunma olmaz. Dağılma derecesine kadar ısıtıldığında koşullara bağlı olarak aşağıdaki dağılım ürünleri oluşabilir. Karbon oksitler.
Tehlikeli reaksiyonlar olasılığı	Tehlikeli polimerizasyon meydana gelmez.
Sakınılması gereken durumlar	Ateş almasını önleyiniz. Isı, kıvılcım, açık ateş ve statik deşarjdan koruyunuz.
Incompatible Materials	'den uzak tutun: Peroksitler, Oksitleyici maddeler, Kuwetli asitler, Aminler

## 11. TOKSİKOLOJİK BİLGİ

### Ethyl acetate

Akut oral toksisite	LD50: 4934 mg/kg
Cinsi	taşan
Metod	OECD 401
Akut dermal toksisite	LD50: > 20000 mg/kg
Cinsi	taşan, erkek
Akut solunum(inhalasyon) toksisitesi	LC0 (6h): 22.5 mg/l
Cinsi	sıçan
Deri korozyonu/tahrişi	Deri tahrişi gözlenmez
Cinsi	taşan
Metod	OECD 404
Ciddi göz hasarı/tahrişi	Göz tahrişi gözlenmez
Cinsi	taşan gözü
Metod	OECD 405
Deri hassasiyeti	Hassaslaştırmaz
Cinsi	kobay
Metod	OECD 406
in vitro mutajenite	Ames Test: negative - with and without metabolic activation - Method: OECD 471 Cytogenicity Assay in Chinese hamster cells: negative - with and without metabolic activation - Method: OECD 473 Mouse lymphoma cell gene-mutation: negative - with and without metabolic activation - Method: OECD 476 (Reference substance: Ethanol)
in vivo mutajenite	Mammalian Erythrocyte Micronucleus Test in Chinese hamster and male mice: negative - Method: OECD 474
kanserojen etkiler	Karsinojen olduğuna dair bir kanıt yok
Üreme sistemi için zehirli	No effects on fertility (Reference substance: Ethanol)
Maruz kalma yolları	Nazogastrik sondayla besleme (oral gavaj)
Cinsi	fare
Metod	OECD 416



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## 11. TOKSİKOLOJİK BİLGİ

### Gelişmeye dair etkiler

Type of study  
Maruz kalma yolları  
Cinsi  
Metod

### Tekrar tekrar maruz kalınması

Type of study  
Maruz kalma yolları  
Cinsi  
Metod

### Tekrar tekrar maruz kalınması

Type of study  
Maruz kalma yolları  
Cinsi  
Metod

Type of study

NOAEL: 26400 mg/kg bw/day (for Ethyl acetate on a molar basis)

Two-generation study

No teratogenic, maternal or developmental effects  
(Reference substance: Ethanol)

Solunum

sıçan

OECD 414

NOAEC: 73300 mg/m<sup>3</sup>

Prenatal Developmental Toxicity Study

Zararlı etkisi yoktur.

Nazogastrik sondayla besleme (oral gavaj)

sıçan

EPA OTS 795.2600

NOAEL: 900 mg/kg bw/day

90-day oral subchronic toxicity study

Zararlı etkisi yoktur

Solunum

sıçan

EPA OTS 798.2450

NOEC: 1.28 mg/l

90-day inhalation subchronic toxicity study

## 12. EKOLOJİK BİLGİ

### Ethyl acetate

#### Akut Balık toksisitesi

Cinsi  
Metod

#### Acute daphnia toxicity

Cinsi  
Metod

#### Toxicity to aquatic plants

Cinsi  
Metod

#### Bakteriler için zehirlilik derecesi

Cinsi  
Metod

#### Biyolojik bozunma

Metod

#### Other potential hazards

LC50: 230 mg/l (96h)

Pimephales promelas

EPA E03-05

EC50: 3090 mg/l (24h)

Daphnia magna (Defne)

DIN 38412, Part 11

NOEC (21 d): 2.4 mg/l

Daphnia magna

NOEC (72h): > 100 mg/l

Desmodesmus subspicatus

OECD 201

EC3 (16h): 650 mg/l

Pseudomonas putida

DIN 38412 T.8

Kolaylıkla biyolojik degradasyona (bozunmaya) uğrar

BOD Standard Method

The substance does not meet the criteria for PBT / vPvB according to REACH, Annex XIII

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### **13. BERTARAF BİLGİLERİ**

Ürün hakkında bilgi	Çöp ile ilgili hukuki kanunları ve nizamları dikkate alarak bir imhaya katiniz. Imha yönteminin seçimi ürünün imha etme zamanındaki bilesimine ve yerel nizamlara ve imha etme olanaklarına bağlıdır..
Temizlenmemiş boş paketler	Zararlı maddeler ile temas alan ambalajlar mükemmel şekilde boşaltılmalıdır, bunlar ilgili temizlemeden sonra tekrar kullanıma alınabilirler..

### **14. NAKLİYE BİLGİLERİ**

#### **ADR/RID**

UN/ID No.	UN 1173
Proper Shipping Name	Ethyl acetate
Tehlike sınıfı	3
Sınıflandırma kodu	F1
Paketleme grubu	II
Çevre için zararlı	hayır***
Tunnel Restriction Code	(D/E)
Hazard Label(s)	3***
Zarar no	33

#### **ADNR**

ADNR	ADNR: Konteyner ve tanker
UN/ID No.	UN 1173
Proper Shipping Name	Ethyl acetate
Tehlike sınıfı	3
Sınıflandırma kodu	F1
Paketleme grubu	II
Çevre için zararlı	hayır***
Hazard Label(s)	3***

#### **ICAO/IATA**

UN-No	UN 1173
Proper Shipping Name	Ethyl acetate
Tehlike sınıfı	3
Paketleme grubu	II
Çevre için zararlı	hayır***
Hazard Label(s)	3***

#### **IMDG**

UN/ID No.	UN 1173
Proper Shipping Name	Ethyl acetate
Tehlike sınıfı	3
Paketleme grubu	II
Deniz kirletici	hayır***
Hazard Label(s)	3***
EmS	F-E, S-D

**Emniyet esasları cetveli**  
**(AT) kararnamesi uyarınca, No: 1907/2006**



Ürün ismi	Ethyl acetate, urethane grade	EU/TR
MSDS No.	80034	Revize Edildiği Tarih
Revizyon numarası	5***.01***	Yayın tarihi

## **15. MEVZUAT BİLGİSİ**

1996/82/EC no'lu Direktif

Ek I, bölüm 2:

**Suya tehlike verme sınıfı (WGK):**

**Suya tehlike arz etme sınıfı** 1

**Suya tehlike arz etme kayıt no.** 95

**Suya tehlike arz etme kaynağı** Suya tehlike arz eden maddeler yönetmeliği'ne göre sınıflandırılması, ek 1 veya 2

### **Uluslararası envanterler**

Listed on the chemical inventories of the following countries or qualifies for an exemption:

Australia (AICS)

Canada (DSL)

China (IECSC)

Europe (EINECS)

Japan (ENCS)

Japan (ISHL)

Korea (KECI)

New Zealand (NZIoC)

Philippines (PICCS)

United States (TSCA)

### **Kimyasal Risk Değerlendirmesi**

Chemical Safety Assessment is available

### **Authorization - Reach Regulation, Title VII**

This substance is not subject to authorization requirements

### **Restrictions - Reach Regulation, Title VIII**

This substance meets the criteria for Annex XVII, No.40

**Emniyet esasları cetveli  
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Ürün ismi	Ethyl acetate, urethane grade	EU/TR
MSDS No.	80034	Revize Edildiği Tarih
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## **16. DİĞER BİLGİLER**

### **Diger bilgi:**

- Ulusal ve yerel düzenlemeleri dikkate alınız

Önceki versiyona göre değişiklikler \*\*\* ile işaretlenmiştir.

### **Eğitim tavsiyesi**

Make sure that employees are aware of the hazards / risks as detailed on this Safety Data Sheet. When wearing a breathing apparatus, the need for appropriate training needs to be considered.

### **Bilgi formunu oluşturmak için kullanılan anahtar bilgi kaynakları**

Bu güvenlik bilgileri sayfasındaki bilgiler, uygun görülen kamuya ait kaynaklardan oluşmaktadır. ANSI veya 1907/2006 tarafından istenen verilerin bir kısmının mevcut olmaması bu şartları yerine getiren verilerin olmadığına işaret etmektedir..

### **Ek bilgi**

Bu bilgiler, şu anda sahip olduğumuz bilgi düzeyine dayanarak verilmiştir. Ürünlerimizin güvenlikle ilgili özelliklerini tanımlamak için verilmiş olup bir garanti ve/veya kalite iddiası oluşturmaz..

**Emniyet esasları cetveli**  
**(AT) kararnamesi uyarınca, No: 1907/2006**



Ürün ismi	Ethyl acetate, urethane grade	EU/TR
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**Abbreviation and Acronym:**

ADR = Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
CAS = Chemical Abstracts Service (division of the American Chemical Society)  
CLP = Classification, Labelling and Packaging  
DNEL = Derived No Effect Level  
EINECS = European Inventory of Existing Commercial Chemical Substances  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC Code = International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IMO)  
ICAO = International Civil Aviation Organization  
IMDG = International Maritime Code for Dangerous Goods  
LC50 = Lethal Concentration  
LD50 = Lethal Dose  
LOAEC = Low Observed Adverse Effect Concentration  
LOAEL = Low Observed Adverse Effect Level  
LOEL = Low Observed Effect Level  
MEST = Mouse Ear Swelling Test  
NOAEC = No Observed Adverse Effect Concentration  
NOAEL = No Observed Adverse Effect Level  
NOEC = No Observed Effect Concentration  
NOEL = No Observed Effect Level  
PBT = Persistent, Bioaccumulative and Toxic  
PNEC = Predicted No Effect Concentration  
RCR = Risk Characterization Ratio  
RID = Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
R-Phrases = Risk Phrases  
S-Phrases = Safety Phrases  
STOT RE = Specific Target Organ Toxicity Repeated Exposure  
STOT SE = Specific Target Organ Toxicity Single Exposure  
STP = Sewage Treatment Plant  
vPvB = very Persistent and very Bioaccumulative

Ürün ismi	Ethyl acetate, urethane grade	EU/TR
MSDS No.	80034	Revize Edildiği Tarih
Revizyon numarası	5***.01***	Yayın tarihi

## Annex: Exposure Scenario

Exposure Scenarios are currently available in English only. Updates in local languages will be published as soon as they are available

See section 8: DNELs and PNECs

### Exposure Scenario 1

#### Ethyl Acetate (CH<sub>3</sub>-COO-CH<sub>2</sub>-CH<sub>3</sub>) CAS# 141-78-6

##### 1. Title: Exposure Scenario for INDUSTRIAL use

Free short title	Industrial manufacturing of Ethyl Acetate
Systematic title based on use descriptor	SU8 PROC1, PROC2, PROC8b ERC1
Processes, tasks, activities covered	Covers the industrial manufacture of Ethyl Acetate. Includes recycling/recovery, material transfers, storage, and loading
Assessment Method	Ecetoc TRA integrated model version 2

##### 2. Operational conditions and risk management measures

Process category:	Continuous process in high integrity contained systems with little potential for exposure (sampling via closed loop system) and continuous process not specifically aimed at minimizing emissions. Occasional exposure possible through e.g. maintenance and sampling
Environmental release category:	Manufacture of organic and inorganic substances in chemical, petro-chemical, primary metals and minerals industry including intermediates, monomers using continuous processes or batch processes applying dedicated or multi-purpose equipment, either technically controlled or operated by manual interventions

Number of sites using the substance: Substance widely used

##### 2.1 Control of workers exposure

Product characteristic (including package design affecting exposure)	Physical state: liquid Concentration of substance in product: Up to 100 % Vapour pressure of substance: 9,8 kPa
Amounts used	n.a. in tier1 TRA model
Frequency and duration of use / exposure	Frequency of exposure (weekly): > 4 Days/week Frequency of exposure (annual): < 240 Days/year Duration of exposure: > 4 Hours/day
Human factors not influenced by risk management	Potentially exposed body parts: Two hands (face side only) Exposed skin surface: 480 cm <sup>2</sup>
Other given operational conditions affecting workers exposure	Room size: n.a. Setting (indoor/outdoor): Outdoor
Technical conditions and measures at process level (source) to prevent release	n.a. in tier 1 TRA model
Technical conditions and measures to control dispersion from source towards the worker	Ventilation: LEV Efficiency rate: 95 %

**Emniyet esasları cetveli  
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Ürün ismi	Ethyl acetate, urethane grade	EU/TR
MSDS No.	80034	Revize Edildiği Tarih
Revizyon numarası	5***.01***	Yayın tarihi

Organisational measures to prevent / limit releases, dispersion and exposure	Handle substances within a closed system. Ensure material transfers are under containment or extract ventilation. Provide extract ventilation to points where emissions occur. Wear suitable gloves tested to EN374 during the activities where skin contact is possible
Conditions and measures related to personal protection, hygiene and health evaluation	PPE: Respiratory Protection Condition: If no LEV

## 2.2 Control of environmental exposure

Product characteristics	Physical state: liquid Concentration of substance in product: Up to 100 %
Amounts used	Daily at point source: n.a. Annually at point source: 150,000 t/year (maximum in worst case) Annually total: 150,000 t/year
Frequency and duration of use	Pattern of release: Continuous 300 days per year
Environment factors not influenced by risk management	Flow rate of receiving surface water: 18,000m3/day (default)
Other given operational conditions affecting environmental exposure	Processing setting (indoor/outdoor): Outdoor Processing temperature: Ambient Processing pressure: Ambient
Technical conditions and measures at process level (source) to prevent release	Keep containers tightly closed. Store in a bounded area. Do not discharge into sewers or drains. Use appropriate emission abatement equipment from LEV systems if required by local legislation. Waste product and empty containers should be disposed of as hazardous waste in accordance with all local and national regulations
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	Apply technical measures aiming at reducing releases to air (Containment by preference or catalytic or thermal gas oxidation): Efficacy >70% Apply technical measures aiming at reduction and cleaning of waste water (WWTP/local STP (e.g. biological treatment)): Efficacy >90%
Organizational measures to prevent / limit release from site	n.a.
Conditions and measures related to municipal sewage treatment plant	Size of STP: > 2000 m3/day Degradation efficacy: 90% Sludge treatment (disposal or recovery): Disposal or recovery
Conditions and measures related to treatment of waste	Hazardous waste incineration or use as into recycled fuels

## 3. Exposure estimation and reference to its source

### Workers Exposure

Estimation is calculated with Ecetoc TRA model v2. Below given values are based on the activities with highest exposure estimates (PROC8b).

### Exposure estimate

### RCRs

Worker: dermal: 0.11

**Emniyet esasları cetveli**  
**(AT) kararnamesi uyarınca, No: 1907/2006**



Ürün ismi	Ethyl acetate, urethane grade	EU/TR
MSDS No.	80034	Revize Edildiği Tarih
Revizyon numarası	5***.01***	Yayın tarihi

Worker: inhalation: 0.32  
Worker: combined: 0.63

**Comment**

Based on PROC 8b

**Environmental exposure**

Estimation is based on Ecetoc TRA model v2 including the data from TGD A&B tables (MC 1b; IC 2; UC 33, fraction main source 1) and based on the worst-case scenario with point-source production volume of 150.000 tpa.

Release times per year (day/year): 300

Fraction used at main local source: 1

Amount used locally (kg/day): 500

Local release to air (kg/day): 10

Local release to waste water (kg/day): 50

Local release to soil (kg/day): 0

**PECs**

In STP:	0.9724 mg/l
In local freshwater:	0.1001 mg/l
In local freshwater sediment:	0.1329 mg/kg
In local soil:	0.0002 mg/kg
In local marine water:	0.0099 mg/l
In local marine sediment:	0.0133 mg/kg
Total daily intake via local environment:	0.0025 mg/kgdw/d

**RCRs**

In STP:	0.001
In local freshwater:	0.385
In local freshwater sediment:	0.475
In local soil:	0.001
In local marine water:	0.384
In local marine sediment:	0.047
Total daily intake via local environment:	< 0.001

**4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES**

The workers exposure and environmental emissions have been evaluated using Ecetoc TRA integrated tool version 2. If the local environmental emission conditions deviate significantly from the used default values, please use the below algorithm to estimate the correct local emissions and RCRs:

$PEC_{corrected} = PEC_{calculated} * (local\ emission\ fraction) * (local\ WWTP\ flow\ rate\ fraction) * (local\ river\ flow\ rate\ fraction) * (local\ STP\ efficiency\ fraction)$

$PEC_{corrected} = 0.09 * (local\ emission\ [kg/day] / 50) * (2000 / local\ WWTP\ flow\ rate\ [m^3/day]) * (18000 / local\ river\ flow\ rate\ [m^3/day]) * ((1 - local\ WWTP\ efficiency)/0.1)$

**Additional good practice advice beyond the REACH CSA**

Note: The measures reported in this section have not been taken into account in the exposure estimates related to the exposure scenario above. They are not subject to obligation laid down in Article 37 (4) of REACH

Use specific measures expected to reduce the predicted exposure beyond the level estimated based on the exposure scenario when possible.



**Emniyet esasları cetveli  
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Ürün ismi	Ethyl acetate, urethane grade	EU/TR
MSDS No.	80034	Revize Edildiği Tarih
Revizyon numarası	5***.01***	Yayın tarihi

**Exposure Scenario 2**

**Ethyl Acetate (CH<sub>3</sub>-COO-CH<sub>2</sub>-CH<sub>3</sub>) CAS# 141-78-6**

**1. Title: Exposure Scenario for INDUSTRIAL use**

Free short title	Drumming and distribution of Ethyl Acetate
Systematic title based on use descriptor	SU10 PROC1, PROC2, PROC8a, PROC8b, PROC9 ERC2.
Processes, tasks, activities covered	Covers transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated and dedicated facilities. Includes material transfers, storage, maintenance and loading.
Assessment Method	Ecetoc TRA integrated model version 2

**2. Operational conditions and risk management measures**

Process category:	Sampling, loading, filling, transfer, dumping, bagging in non-dedicated facilities. Exposure related to vapour, aerosols or spillage, and cleaning of equipment to be expected
Environmental release category:	Mixing, blending, diluting, transferring, filling drumming and distributing activities of substances in all types of drumming, distribution and trading industry. Also includes drumming, filling and distribution activities in formulating industries, such as paints and do-it-yourself products, pigment paste, fuels, household products (cleaning products), cosmetics, lubricants etc.

Number of sites using the substance: Substance widely used.

**2.1 Control of workers exposure**

Product characteristic (including package design affecting exposure)	Physical state: liquid Concentration of substance in product: Up to 100 % Vapour pressure of substance: 9,8 kPa
Amounts used	n.a. in tier1 TRA model
Frequency and duration of use / exposure	Frequency of exposure (weekly): > 4 Days/week Frequency of exposure (annual): < 240 Days/year Duration of exposure: > 4 Hours/day
Human factors not influenced by risk management	Potentially exposed body parts: Two hands Exposed skin surface: 960 cm <sup>2</sup>
Other given operational conditions affecting workers exposure	Room size: n.a. Setting (indoor/outdoor): Outdoor or in highly ventilated (open) spaces
Technical conditions and measures at process level (source) to prevent release	n.a. in tier 1 TRA model
Technical conditions and measures to control dispersion from source towards the worker	Outdoors: n.a. If indoors: LEV with >90 % efficacy

**Emniyet esasları cetveli  
(AT) kararnamesi uyarınca, No: 1907/2006**



Ürün ismi	Ethyl acetate, urethane grade	EU/TR
MSDS No.	80034	Revize Edildiği Tarih
Revizyon numarası	5***.01***	Yayın tarihi

Organisational measures to prevent / limit releases, dispersion and exposure	Provide a good standard of general or controlled ventilation. Wear suitable gloves tested to EN374 during the activities where skin contact is possible. Limit the duration of PROC8 (transfer, loading and filling at non dedicated facilities) activities to less than 4 hours per day.
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN374

## 2.2 Control of environmental exposure

Product characteristics	Physical state: Liquid Concentration of substance in product: Up to 100 %
Amounts used	Daily at point source: n.a. Annually at point source: 30,000 t/year (worst case scenario, max at point source) Annually total: 30,000 t/year
Frequency and duration of use	Release times per year: < 300 days per year
Environment factors not influenced by risk management	Flow rate of receiving surface water: 18,000m3/day (default)
Other given operational conditions affecting environmental exposure	Processing setting (indoor/outdoor): Outdoor Processing temperature: Ambient Processing pressure: Ambient
Technical conditions and measures at process level (source) to prevent release	Keep containers tightly closed. Store in a bounded area (closed sinks/ basins) to prevent discharge to waste- and/or surface water. Do not discharge into sewers or drains. Waste product and empty containers should be disposed of as hazardous waste in accordance with all local and national regulations
Organizational measures to prevent / limit release from site	Containment should be used to minimise releases to air.
Conditions and measures related to municipal sewage treatment plant	Size of STP: > 2000 m3/day Degradation efficacy: 90% Sludge treatment (disposal or recovery): Disposal or recovery
Conditions and measures related to treatment of waste	Hazardous waste incineration or use as into recycled fuels

## 3. Exposure estimation and reference to its source

### Workers Exposure

Estimation is calculated with Ecetoc TRA model v2

### Exposure estimate

#### RCRs

Worker: dermal:	0.21
Worker: inhalation:	0.52
Worker: combined:	1.09 *

### Comment

\*Conservative estimation based on PROC8a.

**Emniyet esasları cetveli**  
**(AT) kararnameyi uyarınca, No: 1907/2006**



Ürün ismi	Ethyl acetate, urethane grade	EU/TR
MSDS No.	80034	Revize Edildiği Tarih
Revizyon numarası	5***.01***	Yayın tarihi

**Environmental exposure**

Estimation is based on Ecetoc TRA model v2 including the data from TGD A&B tables (MC Ib; IC 2; UC 33, fraction main source 1) and based on the worst-case scenario with point-source production volume of 30.000 tpa.

Release times per year (day/year): 300

Fraction used at main local source: 1

Amount used locally (kg/day): 500

Local release to air (kg/day): 10

Local release to waste water (kg/day): 50

Local release to soil (kg/day): 0

**PECs**

In STP:	1.770 mg/l
In local freshwater:	0.179 mg/l
In local freshwater sediment:	0.239 mg/kg
In local soil:	0.002 mg/kg
In local marine water:	0.018 mg/l
In local marine sediment:	0.024 mg/kg
Total daily intake via local environment:	0.005 mg/kgdw/d

**RCRs**

In STP:	0.003
In local freshwater:	0.692
In local freshwater sediment:	0.853
In local soil:	0.006
In local marine water:	0.692
In local marine sediment:	0.085
Total daily intake via local environment:	< 0.001

**4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES**

The workers exposure and environmental emissions have been evaluated using Ecetoc TRA integrated tool version 2. If the local environmental emission conditions deviate significantly from the used default values, please use the below algorithm to estimate the correct local emissions and RCRs:

$PEC_{corrected} = PEC_{calculated} * (local\ emission\ fraction) * (local\ WWTP\ flow\ rate\ fraction) * (local\ river\ flow\ rate\ fraction) * (local\ STP\ efficiency\ fraction)$

$PEC_{corrected} = 0,18 * (local\ emission\ [kg/day] / 50) * (2000 / local\ WWTP\ flow\ rate\ [m^3/day]) * (18000 / local\ river\ flow\ rate\ [m^3/day]) * ((1 - local\ WWTP\ efficiency)/0,1)$

**Additional good practice advice beyond the REACH CSA**

Note: The measures reported in this section have not been taken into account in the exposure estimates related to the exposure scenario above. They are not subject to obligation laid down in Article 37 (4) of REACH Use specific measures expected to reduce the predicted exposure beyond the level estimated based on the exposure scenario when possible.

**Emniyet esasları cetveli  
(AT) kararnamesi uyarınca, No: 1907/2006**



Ürün ismi	Ethyl acetate, urethane grade	EU/TR
MSDS No.	80034	Revize Edildiği Tarih
Revizyon numarası	5***.01***	Yayın tarihi

**Exposure Scenario 3**

**Ethyl Acetate (CH<sub>3</sub>-COO-CH<sub>2</sub>-CH<sub>3</sub>) CAS# 141-78-6**

**1. Title: Exposure Scenario for INDUSTRIAL use**

Free short title	Industrial formulation of Ethyl Acetate and its mixtures
Systematic title based on use descriptor	SU10 PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9 ERC2
Processes, tasks, activities covered	Covers the industrial mixing or blending in batch processes for formulation of preparations and articles, transfer of substance or preparation into small containers (dedicated filling line), and Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated and non-dedicated facilities.
Assessment Method	Ecetoc TRA integrated model version 2

**2. Operational conditions and risk management measures**

Process category:	Manufacture or formulation of chemical products or articles using technologies related to mixing and blending of solid or liquid materials, and where the process is in stages and provides the opportunity for significant contact at any stage. Filling lines specifically designed to both capture vapour and aerosol emissions and minimise spillage. Sampling, loading, filling, transfer, dumping, bagging in non-dedicated and dedicated facilities with possible exposure related to dust, vapour, aerosols or spillage, and cleaning of equipment.
Environmental release category:	Manufacture of organic and inorganic substances in chemical, petro-chemical, primary metals and minerals industry including intermediates, monomers using continuous processes or batch processes applying dedicated or multi-purpose equipment, either technically controlled or operated by manual interventions

Number of sites using the substance: Substance widely used.

**2.1 Control of workers exposure**

Product characteristic (including package design affecting exposure)	Physical state: liquid Concentration of substance in product: Up to 100 % Vapour pressure of substance: 9,8 kPa
Amounts used	n.a. in tier1 TRA model
Frequency and duration of use / exposure	Frequency of exposure (weekly): > 4 Days/week Frequency of exposure (annual): < 240 Days/year Duration of exposure: > 4 Hours/day
Human factors not influenced by risk management	Potentially exposed body parts: Two hands Exposed skin surface: 960 cm <sup>2</sup>
Other given operational conditions affecting workers exposure	Room size: n.a. Setting (indoor/outdoor): indoor

**Emniyet esasları cetveli  
(AT) kararnameyi uyarınca, No: 1907/2006**



Ürün ismi	Ethyl acetate, urethane grade	EU/TR
MSDS No.	80034	Revize Edildiği Tarih
Revizyon numarası	5***.01***	Yayın tarihi

Technical conditions and measures at process level (source) to prevent release	n.a. in tier 1 TRA model
Technical conditions and measures to control dispersion from source towards the worker	Ventilation: LEV when possible (not required) Efficiency rate: n.a.
Organisational measures to prevent / limit releases, dispersion and exposure	Handle substances within a predominantly closed system. Ensure material transfers are under containment or extract ventilation when possible. Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour). Provide good ventilation to points where emissions occur. Wear suitable gloves tested to EN374 during the activities where skin contact is possible.
Conditions and measures related to personal protection, hygiene and health evaluation	No PPE required

## 2.2 Control of environmental exposure

Product characteristics	Physical state: liquid Concentration of substance in product: Up to 100 %
Amounts used	Daily at point source: n.a. Annually at point source: 15,000 t/year (maximum at point source in worst case) Annually total: 60,000 t/year
Frequency and duration of use	Pattern of release: Continuous 300 days per year
Environment factors not influenced by risk management	Flow rate of receiving surface water: 18,000m <sup>3</sup> /day (default)
Other given operational conditions affecting environmental exposure	Processing setting (indoor/outdoor): Indoor Processing temperature: n.a. Processing pressure: n.a.
Technical conditions and measures at process level (source) to prevent release	Keep containers tightly closed. Store in a bounded area. Do not discharge into sewers or drains.
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	Use containment measures to reduce releases to air: n.a. No specific onsite measures required. When possible apply technical measures aiming at reduction and cleaning of wastewater: n.a.
Organizational measures to prevent / limit release from site	Do not release wastewater directly into environment. Wastewater release into municipal STP.
Conditions and measures related to municipal sewage treatment plant	Size of STP: > 2000 m <sup>3</sup> /day Degradation efficacy: 90% Sludge treatment (disposal or recovery): Disposal or recovery
Conditions and measures related to treatment of waste	Hazardous waste incineration or use as into recycled fuels

## 3. Exposure estimation and reference to its source

### Workers Exposure

Estimation is calculated with Ecetoc TRA model v2 (the data are the highest estimation of evaluated all PROCs). Below given values relate to PROC5 activities.

### Exposure estimate

#### RCRs

Worker: dermal:	0.001
Worker: inhalation:	0.301

**Emniyet esasları cetveli**  
**(AT) kararnamesi uyarınca, No: 1907/2006**



Ürün ismi	Ethyl acetate, urethane grade	EU/TR
MSDS No.	80034	Revize Edildiği Tarih
Revizyon numarası	5***.01***	Yayın tarihi

Worker: combined: 0.501

**Environmental exposure**

Estimation is based on Ecetoc TRA model v2 including the data from TGD A&B tables (MC 1b; IC 14; UC 48, fraction main source 0,4) and based on the worst-case scenario with point-source production volume of 15.000 tpa.

Release times per year (day/year): 300

Fraction used at main local source: 0,4

Amount used locally (kg/day): 8000

Local release to air (kg/day): 40

Local release to waste water (kg/day): 24

Local release to soil (kg/day): 0,8

**PECs**

In STP:	1.416 mg/l
In local freshwater:	0.144 mg/l
In local freshwater sediment:	0.192 mg/kg
In local soil:	0.001 mg/kg
In local marine water:	0.014 mg/kg
In local marine sediment:	0.019 mg/kg
Total daily intake via local environment:	0.003 mg/kgdw/d

**RCRs**

In STP:	0.002
In local freshwater:	0.556
In local freshwater sediment:	0.685
In local soil:	0.005
In local marine water:	0.555
In local marine sediment:	0.068
Total daily intake via local environment:	< 0.001

**4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES**

The workers exposure and environmental emissions have been evaluated using Ecetoc TRA integrated tool version 2. If the local environmental emission conditions deviate significantly from the used default values, please use the below algorithm to estimate the correct local emissions and RCRs:

$PEC_{corrected} = PEC_{calculated} * (local\ emission\ fraction) * (local\ WWTP\ flow\ rate\ fraction) * (local\ river\ flow\ rate\ fraction) * (local\ STP\ efficiency\ fraction)$

$PEC_{corrected} = 0.14 * (local\ emission\ [kg/day] / 24) * (2000 / local\ WWTP\ flow\ rate\ [m^3/day]) * (18000 / local\ river\ flow\ rate\ [m^3/day]) * ((1 - local\ WWTP\ efficiency)/0.1)$

**Additional good practice advice beyond the REACH CSA**

Note: The measures reported in this section have not been taken into account in the exposure estimates related to the exposure scenario above. They are not subject to obligation laid down in Article 37 (4) of REACH Use specific measures expected to reduce the predicted exposure beyond the level estimated based on the exposure scenario when possible.

**Emniyet esasları cetveli**  
**(AT) kararnamesi uyarınca, No: 1907/2006**



Ürün ismi	Ethyl acetate, urethane grade	EU/TR
MSDS No.	80034	Revize Edildiği Tarih
Revizyon numarası	5***.01***	Yayın tarihi

**Exposure Scenario 4**

**Ethyl Acetate (CH<sub>3</sub>-COO-CH<sub>2</sub>-CH<sub>3</sub>) CAS# 141-78-6**

**1. Title: Exposure Scenario for INDUSTRIAL use**

Free short title	Industrial use as extraction solvent and/or processing aid
Systematic title based on use descriptor	SU9 PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b ERC1
Processes, tasks, activities covered	Covers the industrial use in closed or open batch and other processes with the aim of synthesis or formulation. Includes material transfer and storage. Ethyl Acetate is in these processes used as extraction solvent or processing aid. Possibility of exposure exists
Assessment Method	Ecetoc TRA integrated model version 2

**2. Operational conditions and risk management measures**

Process category:	Continuous process in high integrity contained systems with little potential for exposure (sampling via closed loop system) and continuous process not specifically aimed at minimizing emissions. Occasional exposure possible through e.g. transfer, filling, maintenance, sampling, etc.
Environmental release category:	Manufacture of organic and inorganic substances in chemical, petro-chemical, primary metals and minerals industry including intermediates, monomers using continuous processes or batch processes applying dedicated or multi-purpose equipment, either technically controlled or operated by manual interventions.

Number of sites using the substance: Substance widely used.

**2.1 Control of workers exposure**

Product characteristic (including package design affecting exposure)	Physical state: liquid Concentration of substance in product: Up to 100 % Vapour pressure of substance: 9,8 kPa
Amounts used	n.a. in tier1 TRA model
Frequency and duration of use / exposure	Frequency of exposure (weekly): > 4 Days/week Frequency of exposure (annual): < 240 Days/year Duration of exposure: > 4 Hours/day (PROC3, PROC4) 1-4 h/d (PROC8a, PROC8b)
Human factors not influenced by risk management	Potentially exposed body parts: - Two hands face side only (automated processes/PROC3,4) - Two hands (transfer, filling, etc./PROC8a,b) Exposed skin surface: - 480 cm <sup>2</sup> (automated processes/PROC3,4) - 960 cm <sup>2</sup> (transfer, filling, etc./PROC8a,b)
Other given operational conditions affecting workers exposure	Room size: n.a. Setting (indoor/outdoor): indoor



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Ürün ismi	Ethyl acetate, urethane grade	EU/TR
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Technical conditions and measures at process level (source) to prevent release	n.a. in tier 1 TRA model
Technical conditions and measures to control dispersion from source towards the worker	LEV not required: n.a. Efficiency: n.a.
Organisational measures to prevent / limit releases, dispersion and exposure	Handle substances within a predominantly closed system. Ensure material transfers are under containment or extract ventilation. Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour). Provide extract ventilation to points where emissions occur.
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN374 during the activities where skin contact is possible (e.g. transfer, filling, sampling, etc.)

## 2.2 Control of environmental exposure

Amounts used	Daily at point source: n.a. Annually at point source: 300 t/year (maximum in worst case) Annually total: 3000 t/year
Frequency and duration of use	Pattern of release: Continuous 300 days per year
Environment factors not influenced by risk management	Flow rate of receiving surface water: 18,000m <sup>3</sup> /day (default)
Other given operational conditions affecting environmental exposure	Processing setting (indoor/outdoor): Indoor Processing temperature: Ambient Processing pressure: Ambient
Technical conditions and measures at process level (source) to prevent release	Keep containers tightly closed. Store in a bounded area. Do not discharge into sewers or drains. Use appropriate emission abatement equipment from LEV systems if required by local legislation. Waste product and empty containers should be disposed of as hazardous waste in accordance with all local and national regulations
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	Use containment measures to minimise emissions to air: Efficacy >70% Apply technical measures aiming at reduction and cleaning of waste water (WWTP/local STP (e.g. biological treatment)): Efficacy >90%
Organizational measures to prevent / limit release from site	Do not release wastewater directly into environment. Wastewater release into municipal STP.
Conditions and measures related to municipal sewage treatment plant	Size of STP: > 2000 m <sup>3</sup> /day Degradation efficacy: 90% Sludge treatment (disposal or recovery): Disposal or recovery
Conditions and measures related to treatment of waste	Hazardous waste incineration or use as into recycled fuels

## 3. Exposure estimation and reference to its source

### Workers Exposure

Estimation is calculated with Ecetoc TRA model v2 (Below given values are relate to PROC4)

### Exposure estimate

#### RCRs

Worker: dermal: 0.011



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Ürün ismi	Ethyl acetate, urethane grade	EU/TR
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Worker: inhalation: 0.050  
Worker: combined: 0.094

**Environmental exposure**

Estimation is based on Ecetoc TRA model v2 including the data from TGD A&B tables (MC Ib; IC 2; UC 48, fraction main source 0,1) and based on the worst-case scenario with point-source production volume of 300 tpa.

Release times per year (day/year): 300

Fraction used at main local source: 0,1

Amount used locally (kg/day): 100

Local release to air (kg/day): 90,0

Local release to waste water (kg/day): 2,0

Local release to soil (kg/day): 0,1

**PECs**

In STP:	0.0778 mg/l
In local freshwater:	0.0106 mg/l
In local freshwater sediment:	0.0141 mg/kg
In local soil:	0.0031 mg/kg
In local marine water:	0.0010 mg/l
In local marine sediment:	0.0014 mg/kg
Total daily intake via local environment:	0.0004 mg/kgdw/d

**RCRs**

In STP:	< 0.001
In local freshwater:	0.041
In local freshwater sediment:	0.050
In local soil:	0.010
In local marine water:	0.040
In local marine sediment:	0.005
Total daily intake via local environment:	< 0.001

**4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES**

The workers exposure and environmental emissions have been evaluated using Ecetoc TRA integrated tool version 2. If the local environmental emission conditions deviate significantly from the used default values, please use the below algorithm to estimate the correct local emissions and RCRs:

$PEC_{corrected} = PEC_{calculated} * (local\ emission\ fraction) * (local\ WWTP\ flow\ rate\ fraction) * (local\ river\ flow\ rate\ fraction) * (local\ STP\ efficiency\ fraction)$

$PEC_{corrected} = 0.009 * (local\ emission\ [kg/day] / 2) * (2000 / local\ WWTP\ flow\ rate\ [m^3/day]) * (18000 / local\ river\ flow\ rate\ [m^3/day]) * ((1 - local\ WWTP\ efficiency)/0.1)$

**Additional good practice advice beyond the REACH CSA**

Note: The measures reported in this section have not been taken into account in the exposure estimates related to the exposure scenario above. They are not subject to obligation laid down in Article 37 (4) of REACH Use specific measures expected to reduce the predicted exposure beyond the level estimated based on the exposure scenario when possible.

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Ürün ismi	Ethyl acetate, urethane grade	EU/TR
MSDS No.	80034	Revize Edildiği Tarih
Revizyon numarası	5***.01***	Yayın tarihi

**Exposure Scenario 5**

**Ethyl Acetate (CH<sub>3</sub>-COO-CH<sub>2</sub>-CH<sub>3</sub>) CAS# 141-78-6**

**1. Title: Exposure Scenario for INDUSTRIAL use**

Free short title	Industrial application of paints, coatings and other mixtures containing Ethyl Acetate by way of spraying
Systematic title based on use descriptor	SU3 PROC1, PROC2, PROC 5, PROC7, PROC8a, PROC8b ERC4
Processes, tasks, activities covered	Indoors painting, application of coatings, adhesives, polishes/cleaners, air care products and other mixtures containing Ethyl Acetate by automated spraying techniques in factories or comparable industrial settings. Includes material mixing, transfer and storage
Assessment Method	Ecetoc TRA integrated model version 2

**2. Operational conditions and risk management measures**

Process category:	Industrial spraying (air dispersive techniques) Substances can be inhaled as aerosols. The energy of the aerosol particles may require advanced exposure controls; in case of coating, overspray may lead to waste water and waste
Environmental release category:	Industrial use of processing aids in a batch process, not becoming part of an article using dedicated or multi-purpose equipment, either technically controlled or operated by manual interventions.

Number of sites using the substance: Substance widely used.

**2.1 Control of workers exposure**

Product characteristic (including package design affecting exposure)	Physical state: liquid Concentration of substance in product: Up to 25% Vapour pressure of substance: 9,8 kPa
Amounts used	n.a. in tier1 TRA model
Frequency and duration of use / exposure	Frequency of exposure (weekly): > 4 Days/week Frequency of exposure (annual): < 240 Days/year Duration of exposure: > 4 Hours/day 1-4 h/d (PROC 8a, PROC8b)
Human factors not influenced by risk management	Potentially exposed body parts: Two hands and forearms Exposed skin surface: 1500 cm <sup>2</sup>
Other given operational conditions affecting workers exposure	Room size: n.a. Setting (indoor/outdoor): Indoors
Technical conditions and measures at process level (source) to prevent release	Concentration substance in the product used: Limit the concentration of the substance in the product used to 25%.
Technical conditions and measures to control dispersion from source towards the worker	Ventilation: LEV (efficiency rate 95%)

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Ürün ismi	Ethyl acetate, urethane grade	EU/TR
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Revizyon numarası	5***.01***	Yayın tarihi

Organisational measures to prevent / limit releases, dispersion and exposure	Handle substance within a predominantly closed system provided with extract ventilation. Do not carry out operation for more than 1 hour without respiratory protection (PPE). Ensure material transfers are under containment or extract ventilation. Provide extract ventilation to points where emissions occur. Spraying should be carried out in a vented laminar spray booth or using respiratory PPE.
Conditions and measures related to personal protection, hygiene and health evaluation	PPE: Respiratory Protection (e.g. respirator conforming to EN140 with Type A filter or better) Condition: If no LEV or vented laminar spray booth. If the spraying activity duration is longer than 1h. PPE: Wear chemically resistant gloves

## 2.2 Control of environmental exposure

Product characteristics	Physical state: liquid Concentration of substance in product: Up to 25%
Amounts used	Daily at point source: n.a. Annually at point source: 1,000 t/year (maximum in worst case) Annually total: 10,000 t/year
Frequency and duration of use	Pattern of release: Continuous 300 days per year
Environment factors not influenced by risk management	Flow rate of receiving surface water: 18,000m <sup>3</sup> /day (default)
Other given operational conditions affecting environmental exposure	Processing setting (indoor/outdoor): Indoor Processing temperature: n.a. Processing pressure: n.a.
Technical conditions and measures at process level (source) to prevent release	Do not discharge into sewers or drains. Use appropriate emission abatement equipment from LEV systems if required by local legislation. Waste product and empty containers should be disposed of as hazardous waste in accordance with all local and national regulations.
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	Use technical measures such as catalytic or thermal oxidation to reduce emissions to air if required. Use containment measures to reduce fugitive emissions. Comply with all local legislative requirements on permitted emission limits. Efficacy: >80% minimum No specific onsite measures required. Efficacy: n.a.
Organizational measures to prevent / limit release from site	Do not release wastewater directly into environment. Wastewater release into municipal STP.
Conditions and measures related to municipal sewage treatment plant	Size of STP: > 2000 m <sup>3</sup> /day Degradation efficacy: 90% Sludge treatment (disposal or recovery): Disposal or recovery
Conditions and measures related to treatment of waste	Hazardous waste incineration or use as into recycled fuels

## 3. Exposure estimation and reference to its source

**Emniyet esasları cetveli**  
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Ürün ismi	Ethyl acetate, urethane grade	EU/TR
MSDS No.	80034	Revize Edildiği Tarih
Revizyon numarası	5***.01***	Yayın tarihi

**Workers Exposure**

Estimation is calculated with Ecetoc TRA model v2. Below given values relate to PROC7 activities.

**Exposure estimate**

**RCRs**

Worker: dermal:	0.034
Worker: inhalation:	0.075
Worker: combined:	0.159

**Environmental exposure**

Estimation is based on Ecetoc TRA model v2 including the data from TGD A&B tables (MC 1b; IC 14; UC 48, fraction main source 0,1)

Release times per year (day/year): 300

Fraction used at main local source: 0,1

Amount used locally (kg/day): 333

Local release to air (kg/day): 60

Local release to waste water (kg/day): 6,7

Local release to soil (kg/day): 0,3

**PECs**

In STP:	0.393 mg/l
In local freshwater:	0.042 mg/l
In local freshwater sediment:	0.056 mg/kg
In local soil:	0.010 mg/kg
In local marine water:	0.004 mg/l
In local marine sediment:	0.005 mg/kg
Total daily intake via local environment:	0.0015 mg/kgdw/d

**RCRs**

In STP:	< 0.001
In local freshwater:	0.162
In local freshwater sediment:	0.200
In local soil:	0.033
In local marine water:	0.162
In local marine sediment:	0.019
Total daily intake via local environment:	< 0.001

**4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES**

The workers exposure and environmental emissions have been evaluated using Ecetoc TRA integrated tool version 2. If the local environmental emission conditions deviate significantly from the used default values, please use the below algorithm to estimate the correct local emissions and RCRs:

$PEC_{corrected} = PEC_{calculated} * (local\ emission\ fraction) * (local\ WWTP\ flow\ rate\ fraction) * (local\ river\ flow\ rate\ fraction) * (local\ STP\ efficiency\ fraction)$

$PEC_{corrected} = 0.04 * (local\ emission\ [kg/day] / 6,7) * (2000 / local\ WWTP\ flow\ rate\ [m^3/day]) * (18000 / local\ river\ flow\ rate\ [m^3/day]) * ((1 - local\ WWTP\ efficiency)/0.1)$

**Additional good practice advice beyond the REACH CSA**

Note: The measures reported in this section have not been taken into account in the exposure estimates related to the exposure scenario above. They are not subject to obligation laid down in Article 37 (4) of REACH Use specific measures expected to reduce the predicted exposure beyond the level estimated based on the exposure scenario when possible.

**Emniyet esasları cetveli**  
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Ürün ismi	Ethyl acetate, urethane grade	EU/TR
MSDS No.	80034	Revize Edildiği Tarih
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Ürün ismi	Ethyl acetate, urethane grade	EU/TR
MSDS No.	80034	Revize Edildiği Tarih
Revizyon numarası	5***.01***	Yayın tarihi

**Exposure Scenario 6**

**Ethyl Acetate (CH<sub>3</sub>-COO-CH<sub>2</sub>-CH<sub>3</sub>) CAS# 141-78-6**

**1. Title: Exposure Scenario for INDUSTRIAL use**

Free short title	Industrial application of paints and coatings (non-spray application)
Systematic title based on use descriptor	SU3 PROC 1, PROC2, PROC5, PROC8a, PROC8b, PROC10, PROC13 ERC4
Processes, tasks, activities covered	Indoor roller application, brushing and treatment of surfaces. Treatment of articles by dipping and pouring. Includes material mixing, transfer and storage
Assessment Method	Ecetoc TRA integrated model version 2

**2. Operational conditions and risk management measures**

Process category:	Low energy spreading of e.g. coatings. Including cleaning of surfaces. Substance can be inhaled as vapours, skin contact can occur through droplets, splashes, working with wipes and handling of treated surfaces. Immersion operations. Treatment of articles by dipping, pouring, immersing, soaking, washing out or washing in substances; including cold formation or resin type matrix. Includes handling of treated objects (e.g. after dying, plating.). Substance is applied to a surface by low energy techniques such as dipping the article into a bath or pouring a preparation onto a surface.
Environmental release category:	Industrial use of processing aids in a batch process, not becoming part of an article using dedicated or multi-purpose equipment, either technically controlled or operated by manual interventions. For example, solvents used in chemical reactions or the 'use' of solvents during the application of paints, lubricants in metal working fluids, anti-set off agents in polymer moulding/casting.

Number of sites using the substance: Substance widely used.

**2.1 Control of workers exposure**

Product characteristic (including package design affecting exposure)	Physical state: liquid Concentration of substance in product: Up to 25 % Vapour pressure of substance: 9,8 kPa
Amounts used	n.a. in tier1 TRA model
Frequency and duration of use / exposure	Frequency of exposure (weekly): > 4 Days/week Frequency of exposure (annual): < 240 Days/year Duration of exposure: > 4 Hours/day 1-4 h/d (PROC8a activities)
Human factors not influenced by risk management	Potentially exposed body parts: Two hands Exposed skin surface: 960 cm <sup>2</sup>
Other given operational conditions affecting workers exposure	Room size: n.a. Setting (indoor/outdoor): indoor

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(AT) kararnamesi uyarınca, No: 1907/2006**



Ürün ismi	Ethyl acetate, urethane grade	EU/TR
MSDS No.	80034	Revize Edildigi Tarih
Revizyon numarası	5***.01***	Yayın tarihi

Technical conditions and measures at process level (source) to prevent release	Concentration substance in the product used: Limit the concentration of the substance in the used product to 25%.
Technical conditions and measures to control dispersion from source towards the worker	Ventilation: LEV (efficiency rate 95%)
Organisational measures to prevent / limit releases, dispersion and exposure	Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour) Provide extract ventilation to points where emissions occur. Clear spills immediately.
Conditions and measures related to personal protection, hygiene and health evaluation	PPE: Wear suitable gloves during the activities where skin contact is possible. Condition: gloves tested to EN374

## 2.2 Control of environmental exposure

Product characteristics	Physical state: liquid Concentration of substance in product: Up to 100 %
Amounts used	Daily at point source: n.a. Annually at point source: 5,500 t/year Annually total: 55,000 t/year
Frequency and duration of use	Pattern of release: Continuous 300 days per year
Environment factors not influenced by risk management	Flow rate of receiving surface water: 18,000m3/day (default)
Other given operational conditions affecting environmental exposure	Processing setting (indoor/outdoor): Indoor Processing temperature: n.a. Processing pressure: n.a.
Technical conditions and measures at process level (source) to prevent release	Do not discharge into sewers or drains. Use appropriate emission abatement equipment from LEV systems if required by local legislation. Waste product and empty containers should be disposed of as hazardous waste in accordance with all local and national regulations.
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	Use technical measures such as catalytic or thermal oxidation to reduce emissions to air if required. Use containment measures to reduce fugitive emissions. Comply with all local legislative requirements on permitted emission limits. Efficacy: >90% minimum No specific onsite measures required: n.a.
Organizational measures to prevent / limit release from site	Do not release wastewater directly into environment. Wastewater release into municipal STP.
Conditions and measures related to municipal sewage treatment plant	Size of STP: > 2000 m3/day Degradation efficacy: 90% Sludge treatment (disposal or recovery): Disposal or recovery
Conditions and measures related to treatment of waste	Hazardous waste incineration or use as into recycled fuels

## 3. Exposure estimation and reference to its source

### Workers Exposure

Estimation is calculated with Ecetoc TRA model v2 without LEV (below given values relate to PROC10 activities)

### Exposure estimate

#### RCRs

Worker: dermal:	0.022
Worker: inhalation:	0.075

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Ürün ismi	Ethyl acetate, urethane grade	EU/TR
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Worker: combined: 0.146

**Environmental exposure**

Estimation is based on Ecetoc TRA model v2 including the data from TGD A&B tables (MC III; IC 14; UC 48, fraction main source 0,1) and based on the worst-case scenario with point-source use of

Release times per year (day/year): 300

Fraction used at main local source: 0,1

Amount used locally (kg/day): 1800

Local release to air (kg/day): 165,0

Local release to sewage (kg/day): 36,7

Local release to soil (kg/day): 1,8

**PECs**

In STP:	1.426 mg/l
In local freshwater:	0.145 mg/l
In local freshwater sediment:	0.193 mg/kg
In local soil:	0.056 mg/kg
In local marine water:	0.014 mg/l
In local marine sediment:	0.019 mg/kg
Total daily intake via local environment:	0.006 mg/kgdw/d

**RCRs**

In STP:	0.002
In local freshwater:	0.559
In local freshwater sediment:	0.690
In local soil:	0.181
In local marine water:	0.559
In local marine sediment:	0.069
Total daily intake via local environment:	0.004

**4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES**

The workers exposure and environmental emissions have been evaluated using Ecetoc TRA integrated tool version 2. If the local environmental emission conditions deviate significantly from the used default values, please use the below algorithm to estimate the correct local emissions and RCRs:

$PEC_{corrected} = PEC_{calculated} * (local\ emission\ fraction) * (local\ WWTP\ flow\ rate\ fraction) * (local\ river\ flow\ rate\ fraction) * (local\ STP\ efficiency\ fraction)$

$PEC_{corrected} = 0.14 * (local\ emission\ [kg/day] / 36,7) * (2000 / local\ WWTP\ flow\ rate\ [m3/day]) * (18000 / local\ river\ flow\ rate\ [m3/day]) * ((1 - local\ WWTP\ efficiency)/0.1)$

**Additional good practice advice beyond the REACH CSA**

Note: The measures reported in this section have not been taken into account in the exposure estimates related to the exposure scenario above. They are not subject to obligation laid down in Article 37 (4) of REACH Use specific measures expected to reduce the predicted exposure beyond the level estimated based on the exposure scenario when possible.



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Ürün ismi	Ethyl acetate, urethane grade	EU/TR
MSDS No.	80034	Revize Edildiği Tarih
Revizyon numarası	5***.01***	Yayın tarihi

**Exposure Scenario 7**

**Ethyl Acetate (CH<sub>3</sub>-COO-CH<sub>2</sub>-CH<sub>3</sub>) CAS# 141-78-6**

**1. Title: Exposure Scenario for INDUSTRIAL use**

Free short title	Industrial and professional (end) use of ethyl acetate as laboratory reagent
Systematic title based on use descriptor	SU3, SU22 PROC15 ERC4, ERC8a
Processes, tasks, activities covered	Use as small-scale laboratory reagent
Assessment Method	Ecetoc TRA integrated model version 2

**2. Operational conditions and risk management measures**

Process category:	Use of substances at small-scale laboratory at production locations, quality control utilities etc.(< 1 l or 1 kg). Larger laboratories and R+D installations should be treated as industrial processes
Environmental release category:	Industrial use of processing aids in a batch process, not becoming part of an article using dedicated or multi-purpose equipment, either technically controlled or operated by manual interventions. For example, solvents used in chemical reactions or the 'use' of solvents during the application of paints, lubricants in metal working fluids, anti-set off agents in polymer moulding/casting.

Number of sites using the substance: Substance widely used

**2.1 Control of workers exposure**

Product characteristic (including package design affecting exposure)	Product characteristic (including package design affecting exposure)
Amounts used	n.a. in tier1 TRA model
Frequency and duration of use / exposure	Frequency of exposure (weekly): > 4 Days/week Frequency of exposure (annual): 240 Days/year Duration of exposure: 1 - 4 Hours/day
Human factors not influenced by risk management	Potentially exposed body parts: One hand, face side only Exposed skin surface: 240 cm <sup>2</sup>
Other given operational conditions affecting workers exposure	Assumes a good basic standard of occupational hygiene is implemented. Setting (indoor/outdoor): Indoor
Technical conditions and measures at process level (source) to prevent release	No specific measures identified
Technical conditions and measures to control dispersion from source towards the worker	No specific measures identified
Organisational measures to prevent / limit releases, dispersion and exposure	No specific measures identified
Conditions and measures related to personal protection, hygiene and health evaluation	No specific PPE measures identified

**2.2 Control of environmental exposure**

**Emniyet esasları cetveli  
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Ürün ismi	Ethyl acetate, urethane grade	EU/TR
MSDS No.	80034	Revize Edildiği Tarih
Revizyon numarası	5***.01***	Yayın tarihi

Product characteristics	Physical state: liquid Concentration of substance in product: Up to 100 %
Amounts used	Daily at point source: n.a. Annually to the region: 30 t/year Annually total: 3,000 t/year
Frequency and duration of use	Pattern of release: Continuous 300 days per year
Environment factors not influenced by risk management	Flow rate of receiving surface water: 18,000 m3/day (default)
Other given operational conditions affecting environmental exposure	Processing setting (indoor/outdoor): Indoor Processing temperature: Ambient Processing pressure: Ambient
Technical conditions and measures at process level (source) to prevent release	No specific onsite measures identified
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	No specific onsite measures identified
Organizational measures to prevent / limit release from site	Do not release wastewater directly into environment. Wastewater release into municipal STP.
Conditions and measures related to municipal sewage treatment plant	Size of STP: > 2000 m3/day Degradation efficacy: 90% Sludge treatment (disposal or recovery): Disposal or recovery
Conditions and measures related to treatment of waste	Contain and dispose of waste in accordance with environmental legislation and according to local regulations.

### 3. Exposure estimation and reference to its source

#### Workers Exposure

Estimation is calculated with Ecetoc TRA model v2

#### Exposure estimate

##### RCRs

Worker: dermal:	0.005
Worker: inhalation:	0.151
Worker: combined:	0.255

#### Environmental exposure

Estimation is based on Ecetoc TRA model v2 based on ERC 8a for professional use and TGD A&B table (MC-III, IC-15, UC-34) for industrial use. Below values are estimates based on the ERC8a approach calculation resulting in more conservative values. All other settings result in lower exposure estimation values. Release times per year (day/year): 365

Fraction used at main local source: 0,01  
Amount used locally (kg/day): 0,16 Local release to air (kg/day): 0,16  
Local release to sewage (kg/day): 0,16  
Local release to soil (kg/day): 0

#### PECs

In STP:	0.8219 mg/l
In local freshwater:	0.0839 mg/l
In local freshwater sediment:	0.1115
In local soil:	0.0002

**Emniyet esasları cetveli**  
**(AT) kararnamesi uyarınca, No: 1907/2006**



Ürün ismi	Ethyl acetate, urethane grade	EU/TR
MSDS No.	80034	Revize Edildiği Tarih
Revizyon numarası	5***.01***	Yayın tarihi

In local marine water:	0.0084 mg/l
In local marine sediment:	0.0112
Total daily intake via local environment:	0.0021 mg/kgdw/d

**RCRs**

In STP:	0.001
In local freshwater:	0.323
In local freshwater sediment:	0.398
In local soil:	< 0.001
In local marine water:	0.323
In local marine sediment:	0.040
Total daily intake via local environment:	< 0.001

**4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES**

The workers exposure and environmental emissions have been evaluated using Ecetoc TRA integrated tool version 2. If the local environmental emission conditions deviate significantly from the used default values, please use the below algorithm to estimate the correct local emissions and RCRs:

$PEC_{corrected} = PEC_{calculated} * (local\ emission\ fraction) * (local\ WWTP\ flow\ rate\ fraction) * (local\ river\ flow\ rate\ fraction) * (local\ STP\ efficiency\ fraction)$

$PEC_{corrected} = 0,8395 * (local\ emission\ [kg/day] / 0,16) * (2000 / local\ WWTP\ flow\ rate\ [m^3/day]) * (18000 / local\ river\ flow\ rate\ [m^3/day]) * ((1 - local\ WWTP\ efficiency)/0.1)$

**Additional good practice advice beyond the REACH CSA**

Note: The measures reported in this section have not been taken into account in the exposure estimates related to the exposure scenario above. They are not subject to obligation laid down in Article 37 (4) of REACH Use specific measures expected to reduce the predicted exposure beyond the level estimated based on the exposure scenario when possible.

**Emniyet esasları cetveli  
(AT) kararnamesi uyarınca, No: 1907/2006**



Ürün ismi	Ethyl acetate, urethane grade	EU/TR
MSDS No.	80034	Revize Edildigi Tarih
Revizyon numarası	5***.01***	Yayın tarihi

**Exposure Scenario 8**

**Ethyl Acetate (CH<sub>3</sub>-COO-CH<sub>2</sub>-CH<sub>3</sub>) CAS# 141-78-6**

**1. Title: Exposure Scenario for Professional/public domain use (non industrial setting)**

Free short title	Professional application of paints, coatings, adhesives and other mixtures/products containing Ethyl Acetate (indoors or outdoors, spray or non-spray application.)
Systematic title based on use descriptor	SU22 PROC1, PROC2, PROC 8a, PROC8b, PROC 10, PROC11, PROC13, PROC19 ERC8a, ERC8d
Processes, tasks, activities covered	Non industrial / professional spraying of mixtures and products like paint, coatings, adhesives, polishes, cleaners, etc. Includes material transfer, hand mixing and storage
Assessment Method	Ecetoc TRA integrated model version 2

**2. Operational conditions and risk management measures**

Process category:	Air dispersive techniques. Spraying for surface coating, adhesives, polishes/cleaners, air care products, sandblasting. Substances can be inhaled as aerosols. The energy of the aerosol particles may require advanced exposure controls
Environmental release category:	Wide dispersive indoor use of processing aids by the public at large or professional use. Use (usually) results in direct release into the sewage system, for example, cosmetics, detergents in fabric washing, machine wash liquids and lavatory cleaners, automotive and bicycle care products (polishes, lubricants, de-icers), solvents in paints and adhesives or fragrances and aerosol propellants in air fresheners.

Number of sites using the substance: Substance widely used

**2.1 Control of workers exposure**

Product characteristic (including package design affecting exposure)	Physical state: Liquid (spray aerosol) Concentration of substance in product: 5-25 % Vapour pressure of substance: 9,8 kPa
Amounts used	n.a. in tier1 TRA model
Frequency and duration of use / exposure	Frequency of exposure (weekly): > 4 Days/week Frequency of exposure (annual): < 300 Days/year Duration of exposure: 1 - 4 Hours/day (PROC 10, 11, 13) 15 min /d – 1 h/d (PROC 8a, 8b, 19)
Human factors not influenced by risk management	Potentially exposed body parts: Two hands and forearms Exposed skin surface: 1500 cm <sup>2</sup>
Other given operational conditions affecting workers exposure	Room size: n.a. Setting (indoor/outdoor): Indoor

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Technical conditions and measures at process level (source) to prevent release	Concentration of the substance in the product used: Limit the concentration of the substance to 25%
Technical conditions and measures to control dispersion from source towards the worker	Ventilation Spray application indoors: LEV (efficiency 80 %) Other situations: Good general ventilation If no LEV when spraying indoors Carry out in ventilated booth
Organisational measures to prevent / limit releases, dispersion and exposure	Do not carry out operation for more than 4 hour. For activities where intimate skin contact is possible (PROC19) limit the duration of activities to 1 hour. Clear spills immediately.
Conditions and measures related to personal protection, hygiene and health evaluation	PPE: Respiratory Protection with at least 90% reduction in inhaled concentration of the substance Condition: If no LEV or ventilated booth available (Spray application indoors only) PPE: Wear suitable gloves during the activities where skin contact is possible. Condition: Chemically resistant gloves tested to EN374

## 2.2 Control of environmental exposure

Product characteristics	Physical state: Liquid Concentration of substance in product: Up to 100 %
Amounts used	Daily at point source: n.a. Annually at point source: n.a (wide dispersive use) Annually total: 5000 t/year
Frequency and duration of use	Pattern of release: Continuous 365 days per year
Environment factors not influenced by risk management	Flow rate of receiving surface water: 18,000m <sup>3</sup> /day (default)
Other given operational conditions affecting environmental exposure	Processing setting (indoor/outdoor): Indoor Processing temperature: Ambient Processing pressure: Ambient
Technical conditions and measures at process level (source) to prevent release	Do not discharge directly into environment. Waste product and empty containers should be disposed of as hazardous waste in accordance with all local and national regulations.
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	No specific measures required.
Organizational measures to prevent / limit release from site	Do not dispose of waste product into drains or watercourses.
Conditions and measures related to municipal sewage treatment plant	No specific measures required
Conditions and measures related to treatment of waste	Collect all unused material for disposal as hazardous waste in compliance with local and national regulations. Use a licensed waste contractor.

## 3. Exposure estimation and reference to its source

### Workers Exposure

Estimation is calculated with Ecetoc TRA workers model v2. Below given values relate to PROC 19 activities when only PPE measures are available. All other activities result in lower exposure estimates

### Exposure estimate

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**RCRs**

Worker: dermal:	0.45
Worker: inhalation:	0.30
Worker: combined:	0.95

**Environmental exposure**

Estimation is based on Ecetoc TRA model v2 based on ERC8a default settings

Release times per year (day/year): 365

Fraction used at main local source: 0,002

Amount used locally (kg/day): 3

Local release to air (kg/day): 2,7

Local release to waste water (kg/day): 2,7

Local release to soil (kg/day): 0

**PECs**

In STP:	1.369 mg/l
In local freshwater:	0.139 mg/l
In local freshwater sediment:	0.186 mg/kg
In local soil:	0.0002 mg/kg
In local marine water:	0.014 mg/l
In local marine sediment:	0.018 mg/kg
Total daily intake via local environment:	0.003 mg/kgdw/d

**RCRs**

In STP:	0.002
In local freshwater:	0.537
In local freshwater sediment:	0.663
In local soil:	< 0.001
In local marine water:	0.537
In local marine sediment:	0.066
Total daily intake via local environment:	< 0.001

**4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES**

The workers exposure and environmental emissions have been evaluated using Ecetoc TRA integrated tool version 2. If the local environmental emission conditions deviate significantly from the used default values, please use the below algorithm to estimate the correct local emissions and RCRs:

$PEC_{corrected} = PEC_{calculated} * (local\ emission\ fraction) * (local\ WWTP\ flow\ rate\ fraction) * (local\ river\ flow\ rate\ fraction) * (local\ STP\ efficiency\ fraction)$

$PEC_{corrected} = 0.14 * (local\ emission\ [kg/day] / 2,7) * (2000 / local\ WWTP\ flow\ rate\ [m^3/day]) * (18000 / local\ river\ flow\ rate\ [m^3/day]) * ((1 - local\ WWTP\ efficiency)/0.1)$

**Additional good practice advice beyond the REACH CSA**

Note: The measures reported in this section have not been taken into account in the exposure estimates related to the exposure scenario above. They are not subject to obligation laid down in Article 37 (4) of REACH Use specific measures expected to reduce the predicted exposure beyond the level estimated based on the exposure scenario when possible.

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Ürün ismi	Ethyl acetate, urethane grade	EU/TR
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**Exposure Scenario 9**

**Ethyl Acetate (CH<sub>3</sub>-COO-CH<sub>2</sub>-CH<sub>3</sub>) CAS# 141-78-6**

**1. Title: Exposure Scenario for Consumer use**

Free short title	Use of Ethyl Acetate in consumer products
Systematic title based on use descriptor	SU21 PC39, PC9a, ERC8a
Processes, tasks, activities covered	Covers the consumer use of products which contain Ethyl Acetate
Assessment Method	Ecetoc TRA integrated model version 2

**2. Product Categories and use conditions**

Process category:	Cosmetics, personal care products
Environmental release category:	Wide dispersive indoor use of processing aids by the public at large or professional use. Use (usually) results in direct release into the sewage system, for example, cosmetics, detergents in fabric washing, machine wash liquids and lavatory cleaners, automotive and bicycle care products (polishes, lubricants, de-icers), solvents in paints and adhesives or fragrances and aerosol propellants in air fresheners.

Number of sites using the substance: Substance widely used.

**2.1 Control of consumers exposure**

Consumer exposure for PC39 (cosmetic products) is regulated by the Cosmetic Directive 76/768/EEC and therefore out of scope for this section. Below measures only apply for consumer use of paint / coatings products with maximum 25% substance content in the end product.

Product characteristic	Description: Consumer painting and coatings products, in liquid form, solvent rich or waterborne, roller, brush or spray applications (spray cans). Weight fraction substance in the product: Up to maximum of 25%
Amounts used / applied per event	Spray application: 15 min spraying (max 0.5 g/sec) Roller and/or other non spray applications: 3750 g for waterborne wall paint 300 g for solvent reach paint
Frequency of use	Occasional: 0-5 times per year
Exposure duration per event	Spray application: 25 minute Roller and/or other non spray applications: 132 minute
Setting and external factors during the event	Indoor and/or outdoor: When indoors: room air ventilation of minimum 0,6 per hour for non-spray applications and 1.5 per hour for spray applications Room volume (when indoors): > 20 m <sup>3</sup>



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Technical use conditions	Limit the concentration of the substance to 25% for spray-can products and 10% for non-spray solvent rich paints in the end product (as used by consumers)
Organisational consumer protection measures (e.g. recommendation and/or use instruction information for consumer)	Spray application Recommend: • Not using in small, enclosed areas/rooms without ventilation • Ensure good ventilation when using indoors e.g. open windows.  Roller and/or other non spray applications Recommend: • Not using in small, enclosed areas/rooms without ventilation • Ensure good ventilation when using indoors e.g. open windows.

## 2.2 Control of environmental exposure

Product characteristics	Physical state: liquid Concentration of substance in product: Up to 25 %
Amounts used	Daily at point source: n.a. Annually at point source: n.a. (wide dispersive use) Annually total: 500 t/year
Frequency and duration of use	Pattern of release: 365 days per year
Environment factors not influenced by risk management	Flow rate of receiving surface water: 18,000m <sup>3</sup> /day (default)
Other given operational conditions affecting environmental exposure	Processing setting (indoor/outdoor): Indoor Processing temperature: ambient Processing pressure: ambient
Conditions and measures related to municipal sewage treatment plant	Size of STP: > 2000 m <sup>3</sup> /day (default) Degradation efficacy: > 70 % Sludge treatment (disposal or recovery): Disposal or recovery
Conditions and measures related to disposal of waste	No specific measures required

## 3. Exposure estimation and reference to its source

### Consumer Exposure

Estimation is based on ConsExpo 4.1 model for PC 9a. Below given values relate exposure estimates for paint application activities during the mean event and at worst-case scenario. Exposure estimates for all other consumer uses are expected to be lower.

### Exposure estimate

#### RCRs

Consumer: Inhalation mean event concentration: 0.97

Consumer: Inhalation acute internal dose: 0.33



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**Environmental exposure**

Estimation is based on Ecetoc TRA model v2 based on ERC8a default settings and total use of 500 tpa  
Release times per year (day/year): 365  
Fraction used at main local source: 0,002  
Amount used locally (kg/day): 0,3  
Local release to air (kg/day): 0,27  
Local release to waste water (kg/day): 0,27  
Local release to soil (kg/day): 0

**PECs**

In STP:	0.0161 mg/l
In local freshwater:	0.004 mg/l
In local freshwater sediment:	0.0059 mg/kg
In local soil:	0.0001 mg/kg
In local marine water:	0.0004 mg/l
In local marine sediment:	0.0005 mg/kg
Total daily intake via local environment:	0.0001mg/kgdw/d

**RCRs**

In STP:	< 0.001
In local freshwater:	0.017
In local freshwater sediment:	0.021
In local soil:	< 0.001
In local marine water:	0.017
In local marine sediment:	0.002
Total daily intake via local environment:	< 0.001

**4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES**

**Additional good practice advice beyond the REACH CSA**

Note: The measures reported in this section have not been taken into account in the exposure estimates related to the exposure scenario above. They are not subject to obligation laid down in Article 37 (4) of REACH Use specific measures expected to reduce the predicted exposure beyond the level estimated based on the exposure scenario when possible.