1. IDENTIFICACIÓN DE LA SUSTANCIA O LA MEZCLA Y DE LA SOCIEDAD O LA EMPRESA

Identificador del producto

ETILO ACETATO G.U.
Acetato de etilo

No.registro del REACH 01-2119475103-46-XXXX

Usos pertinentes identificados de la sustancia o de la mezcla y usos aconsejados

Productos químicos intermedios(incluso monómeros)
disolvente

Datos del proveedor

Campi y Jové, S.A.
C/ Venezuela, 103
08019 Barcelona (Spain)
T: 34 93 476 66 66
F: 34 93 207 37 07
campiyjove@cyjsa.com

Teléfono de Emergencia

+34 704 100 087

2. IDENTIFICACIÓN DE LOS PELIGROS

Conforme al Reglamento (CE) nº 1272/2008 sobre la clasificación, etiquetado y envasado de sustancias y mezclas

Elementos de la etiqueta

Pictograma

Palabras de advertencia:
Peligro
Indicaciones de peligro:
H225 Líquido y vapores muy inflamables
H336 Puede provocar somnolencia o vértigo.
Consejos de Prudencia(prevención):
P280 Llevar guantes/prendas/gafas/máscara de protección
P271 Utilizar únicamente en exteriores o en un lugar bien ventilado.
P261 No respirar el polvo/la niebla, humo/gas vapores del aerosol.
P241 Utilizar un material eléctrico, de ventilación o de iluminación/…/antidef lagrante.
P264 Lavarse con agua y jabón concienzudamente tras la manipulación.
P210 Mantener alejado de fuentes de calor y chispas-no fumar.
P243 Tomar medidas de precaución contra descargas electroestáticas.
P242 Utilizar únicamente herramientas que no produzcan

chispas.
P240 Conectar a tierra/enlace equipotencial del recipiente y del equipo de recepción.
Consejos de Prudencia(respuesta):
P312 Llamar inmediatamente a un centro de información toxicológica
P305 + P351+ P338 en caso de contacto con los ojos: Aclarar cuidadosamente con agua durante varios minutos. Quitar lentes de contacto, si lleva. Seguir aclarando.
P303 + P361+ P353 En caso de contacto con la piel: lavar abundantemente con agua y jabón, ducharse. Sacarse inmediatamente la ropa contaminada.
P332 + P313 en caso que persista la irritación acudir a un médico.
P304 + P340 En caso de inhalación: transportar a la víctima al exterior y mantenerla en reposo en una posición confortable para respirar.
P370 + P378.En caso de fuego: Utilizar espuma resistente al alcohol, dióxido de carbono, agua pulverizada.
Consejos de Prudencia(almacenamiento y eliminación):
P403+ P 233 Almacenar en un lugar bien ventilado. Mantener el recipiente herméticamente cerrado.
P405 Guardar bajo llave.
P403 + P235 Mantener en lugar fresco y ventilado.

Clasificación según reglamento (EC) No.1272/2008(CLP)
Liquidos inflamables ; Cat.2
Toxicidad sistemática especifica del órgano blanco (exposición única): cat.3

Posibles peligros (conforme a la directiva 67/548/CE o 1999/45/CE)
Indicación de peligro
F fácilmente inflamable
Xi Irritante
Frase(s)-R R11 fácilmente inflamable
R36 Irrita los ojos
R66 La exposición repetida puede provocar sequedad o formación de grietas en la piel.
R67 La inhalación de vapores puede provocar somnolencia y vétigo.
Frase(s)-S S16- conservar alejado de toda llama o funete de chispas-no fumar.
S33-Evítese la acumulación de cargas electroestáticas.
Componente(s)peligroso(s) que determinan el etiquetado:
ACETATO DE ETILO

3. COMPOSICIÓN / INFORMACIÓN DE LOS COMPONENTES

Componentes

Acetato de etilo 99.7 %
No.CAS 141-78-6
No.EINECS 205-500-4
No.INDEX 607-022-00-5

4. PRIMEROS AUXILIOS

Información general	Quitarse inmediatamente la ropa manchada o empapada y retirarla de forma controlada. Ponga atención a su propia protección. Facilitar siempre al médico esta Ficha de Datos de seguridad.
Descripción de los primeros auxilios	**Contacto con los ojos** Enjuagar inmediatamente con abundancia de agua, también debajo de los párpados, por lo menos durante 15 minutos. Llame inmediatamente al médico. **Contacto con la piel** Eliminar inmediatamente lavando con jabón y mucha agua desprendiéndose del calzado y de todas las ropas contaminadas. En el caso de molestias prolongadas acudir al médico. **Ingestión** Enjuagar con mucha agua. Si está consciente beber mucha agua. Si es tragado. No provocar el vómito-consultar un médico. **Inhalación** Mantener tranquilo. Salir al aire libre. Llame inmediatamente al médico.
Notas para el médico	**Síntomas principales** Los vapores pueden, provocar irritación severa en los ojos, sistema respiratorio y la piel. La inhalación de concentraciones altas vapores pueden causar la depresión-CNS y narcosis. **Tratamiento** Tratar sintomáticamente. En caso de irritación pulmonar, iniciar el tratamiento con dexametasoma en aerosol(pulverizador). Al tragar, gastroscopia con aspiración y compensación de acidosis.

5. MEDIDAS DE LUCHA CONTRA INCENDIOS

Medios de extinción	**Adecuados;** polvo químico seco, espuma, CO_2. **No adecuados;** No usar un chorro compacto de agua ya que puede dispersar y extender el fuego.
Peligros específicos derivados de la sustancia o la mezcla	Los gases peligrosos que se producen en un incendio en condiciones de combustión incompleta, pueden contener monóxido de carbono y dióxido de carbono. Los gases de combustión de materias orgánicas deben considerarse siempre como tóxicos por inhalación. Los vapores son más pesados que el aire y pueden expandirse a lo largo del suelo.
Recomendaciones para el personal de lucha contra incendios	Equipo respiratorio autonomo (EN 133)
Precauciones para la protección del medio ambiente	Es posible que el escurrimineto de agua y la nube de vapor sean corrosivos. Se debe contener y captar el agua utilizada para combatir incendios para su neutralización antes de liberarla. Hacer un dique y recoger el agua que se ha utilizado para luchar contra el incendio.

Medidas y peligros especiales	Enfriar recipientes/tanques con pulverización por agua.

6. MEDIDAS A TOMAR EN CASO DE VERTIDO ACCIDENTAL

Respetar toda la legislación local e internacional en vigor.

Precauciones personales, equipo de protección y procedimientos de emergencia	Evitar el contacto con la piel y los ojos . Manténgase separado del calor y de las fuentes de ignición. Proveer de ventilación adecuada.
Precauciones relativas al medio ambiente	Evitar los vertidos al alcantarillado, cauces públicos y la dispersión del producto.
Métodos y material de contención y de limpieza	Recoger el producto con un absorbente inerte (por ejemplo, arena, diatomita, fijador de ácidos, fijador universal, serrín) Guardar en contenedores apropiados y cerrados para su eliminación. Eliminar, observando las normas las normas locales en vigor.

7. MANIPULACIÓN Y ALMACENAMIENTO

Precauciones para una manipulación segura	Consejos para una manipulación segura Disponer de la suficiente renovación del aire y/o de extracción en los lugares de trabajo. Manejar el producto siempre cerrado. Almacenar en un lugar accesible sólo a personas autorizadas. Indicaciones oara la protección contra incendio y explosión Protéjase de fuentes de ignición.No fumar.Adoptar la acción necessaria para evitar la descarga de la electricidad estática.Conectar a tierra y atar los contenedores cuando se está transferiendo el material.Para el caso de un incendio en los alrededores, debe preverse refrigeración de emergencia por agua pulverizada.
Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades	Temperatura y productos de descomposición . Clase de temperatura T2. Condiciones de almacenamiento : Conservar el envase herméticamenhte cerrado en un lugar fresco y bien ventilado. Abrase y manipúlese el recipiente con cuidado. Incompatibilidades. Bases, aminas y agua Clase alemán de almacenamiento: 3A materias líquidas, inflamables

8. CONTROLES DE EXPOSICIÓN/PROTECCIÓN PERSONALES

Limites nacionales de exposición en el trabajo	**Componentes** **TWA** Acetato de etilo 1460mg/m3-400ppm
	Disposiciones de ingeniería la ventil.lación general o con dilución son muchas veces insuficientes para limitar que los empleados estén expuestos a la contaminación. Generalmente

se da preferencia a la ventilación local.Se deben usar aparatos protegidos contra la explosión (tales como, p.ej., ventiladores, interruptores y la puesta a tierra). En los sistemas de vetilación mecánicos.

Controles de la exposición

Equipo de protección personal

Protección respiratoria;

En presencia de altas concentraciones de vapores del producto usar máscara de protección respiratoria (con filtro de gas A)

Protección de manos

Se recomienda guantes resistentes a los productos químicos(goma butílica). Indumentaria impermeable.

Protección para los ojos

Gafas de seguridad ajustadas al contorno del rostro. Además se debe llevar mascarilla si existe el peligro de salpicaduras en la cara. El equipo debe satisfacer la norma EN 166.

Otras: sistema lava-ojos y duchas en el lugar de trabajo.

Medidas generales de protección e higiene

Ventilación local adecuada. No fumar y evitar todas las fuentes de ignición. Evitar el contacto con los ojos y la inhalación de vapores.

Medidas de higiene laboral

Las buenas prácticas de trabajo y la adopción de medidas higiénicas personales, reducen exposiciones innecesarias. Deben usarse duchas de agua caliente. Usar jabón y no otros disolventes. Tanto la ropa como los útiles deben cambiarse frecuentemente y limpiarse en seco. La ropa muy contaminada debe cambiarse inmediatamente. Debe revisarse el estado de los guantes para evitar una contaminación interna. Utilizar cremas para la piel después del trabajo.

9. PROPIEDADES FÍSICAS Y QUÍMICAS

Información sobre propiedades físicas y químicas

Aspecto (20ºC)	Líquido	
Color	incoloro	
Olor	frutoso	
pH(1% en agua)	neutro	
Límite de explosión inferior	2	(%vol)
Límite de explosión superior	12.8	(%vol)
Punto de fusión	-83	ºC
Punto de ebullición(1013hPa)	77	ºC
Presión de vapor (a 20ºC)	98	(hPa)
(50ºC)	379	(hPa)
Densidad (20ºC)	0.90	(g/cm^3)
Hidrosolubilidad (25ºC)	80	
Coeficient de reparto n-octanol/agua	0.73	

Otra información

Densidad de vapor	3.04(aire : 1)
Punto de ignición	-4 ºC
Temperatura de ignición	427 ºC
Viscosidad (25ºC)	0.423 mPa.s
Indice de evaporación	4.5(n-butyl acetate=1)

10. ESTABILIDAD Y REACTIVIDAD

Estabilidad	Estable bajo condiciones normales de manejo, uso y transporte.
Condiciones que deben evitarse	Mantener alejado de toda fuente de ignición. Evitar el contacto con calor, chispas, llama abierta y descarga estática.
Materias que deben evitarse	Peróxidos , agentes oxidantes, ácidos fuertes y aminas
Reacciones peligrosas	La polimerización peligrosa no ocurre

11. INFORMACIÓN TOXICOLÓGICA

Información sobre los efectos toxicológicos

Oral LD50:>5000 mg/kg-rata
Dérmico LD50: >18 g/kg-conejo
Inhalación LC50:58mg/l, rata (6h)
Irritación de la piel No irritant
Especies conejo
Irritación ojos No irritant
Especies ojo de conejo
Mutagenicidad in vitro Prueba de Ames-negativo
Mutagenicidad en vivo Ensayo de micronucleos hamster - inhalación – negativo
Neurotoxicity 90-ay neurotoxicity screen rat-negative inhalation

12. INFORMACIÓN ECOLÓGICA

Toxicidad para algas	EC0 : >900 mg/l (72h) Especies Scenedesmus subspicatus Método OECD 201
Toxicidad para bacterias	EC0; 650 mg/l(16h) Especies pseudomonas putida
Biodegradación	100% (28d) of ThOD especies domestic sewage Método closed bottle test
Toxicidad para peces	LC50 : 230 mg/l (96h) Especies pimephales promelas Método condiciones estáticas
Toxicidad para Dafnia	EC50 :164 mg/l (48h) Especies Daphnia cuculatta Método NOEC (21d) : 12 mg/l Especies Daphnia magna (pulga de mar grande) Método condiciones semi estáticas

13. CONSIDERACIONES RELATIVAS A LA ELIMINACIÓN

Información del producto	Eliminar observando las leyes y reglamentaciones legales para desperdicios. La elección del proceso de eliminación depende de la composición del producto en el momento de la eliminación y de los estatutos locales y de las posibilidades de eliminació.

Envoltorios vacíos impuros	Envases/embalajes contaminados deben ser vaiados lo mejor posible; después, tras la correspondiente limpieza, pueden ser utilizados de nuevo.

14. INFORMACIÓN RELATIVA AL TRANSPORTE

Transporte terrestre ADR/RID	1173
Número ONU	
Designación oficial de transporte de las Naciones Unidas	Acetato de etilo
Clase de peligro para el transporte	3
Grupo de embalaje	II
Número de identificación de peligro	33
Transporte fluvial ADNR	1173
Número ONU	
Designación oficial de transporte de las Naciones Unidas	Acetato de etilo
Clase de peligro para el transporte	3
Grupo de embalaje	II
Número de identificación de peligro	33
Transporte marítimo IMDG	1173
Número ONU	
Designación oficial de transporte de las Naciones Unidas	Acetato de etilo
Clase de peligro para el transporte	3
Grupo de embalaje	II
EmS	F-E, S-D
Transporte aéreo ICAO/IATA	1173
Número ONU	
Designación oficial de transporte de las Naciones Unidas	Acetato de etilo
Clase de peligro para el transporte	3
Grupo de embalaje	II

15. INFORMACIÓN REGLAMENTARIA

Reglamentación y legislación en materia de seguridad, salud y medio ambiente especificas para la sustancia o la mezcla

Alemania, Clases de peligros del agua(WGK)	Clase WGK 1 No.de reg.WGK 95 No.de reg. WGK Clasificación conforme a la prescripcripción administrativa de sustancias amenazadoras del agua (VwVwS) en el anexo 1 ó 2.

16. OTRA INFORMACIÓN

Otra información:	Tener en cuenta la legislación nacional y local aplicable. Los datos se basan en el estado actual de conocimientos. Tienen el propósito de describir nuestros productos con respecto a las exigencias de seguridad, sin tener el significado de una garantía o de declaración de calidad.

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 (CH3-COO-CH2-CH3) 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 Áa 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 cm2
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 %
Organisational measures to prevent / limit releases, dispersion and exposure	Handle substances within a closed system. Ensure material transfers are under containment or extract ventilation. ProÁde extract ventilation to points where emissions occur. Wear suitable gloves tested to EN374 during the actiÁties where skin contact is possible

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 receiÁng 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).

Exposeestimate

RCRs

Worker: dermal: 0.11
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 Ib; 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:
PECcorrected = PECcalculated * (local emission fraction) * (local WWTP flow rate fraction) * (local river flow rate fraction) * (local STP efficiency fraction)
PECcorrected = 0.09 * (local emission [kg/day] / 50) * (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.

Exposure Scenario 2
Ethyl Acetate (CH3-COO-CH2-CH3) 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 cm2
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
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.

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 receiÁng 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.

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:
PECcorrected = PECcalculated * (local emission fraction) * (local WWTP flow rate fraction) * (local river flow rate fraction) * (local STP efficiency fraction)
PECcorrected = 0,18 * (local emission [kg/day] / 50) * (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.

Exposure Scenario 3
Ethyl Acetate (CH3-COO-CH2-CH3) 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 proÁdes 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 cm2
Other given operational conditions affecting workers exposure	Room size: n.a. Setting (indoor/outdoor): indoor
Technical conditions and measures at process level (source) to prevent release	n.a. in tier 1 TRA model

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 receiÁng 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	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 enÁronment. 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 (the data are the highest estimation of evaluated all PROCs). Below given values relate to PROC5 actiÁties.

Expose estimate

RCRs

Worker: dermal: 0.001
Worker: inhalation: 0.301
Worker: combined: 0.501

Environmental exposure

Estimation is based on Ecetoc TRA model v2 including the data from TGD A&B tables (MC Ib; 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:
PECcorrected = PECcalculated * (local emission fraction) * (local WWTP flow rate fraction) * (local river flow rate fraction) * (local STP efficiency fraction)
PECcorrected = 0.14 * (local emission [kg/day] / 24) * (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

Exposure Scenario 4
Ethyl Acetate (CH3-COO-CH2-CH3) 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 Áa 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 cm2 (automated processes/PROC3,4) - 960 cm2 (transfer,
Other given operational conditions affecting workers exposure	Room size: n.a. Setting (indoor/outdoor): indoor

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: 18,000m3/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 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 relate to PROC4)

Exposure estimate

RCRs

Worker: dermal: 0.011
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:
PECcorrected = PECcalculated * (local emission fraction) * (local WWTP flow rate fraction) * (local river flow rate fraction) * (local STP efficiency fraction)
PECcorrected = 0.009 * (local emission [kg/day] / 2) * (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.

Exposure Scenario 5
Ethyl Acetate (CH3-COO-CH2-CH3) 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 cm2
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%)
Organisational measures to prevent / limit releases, dispersion and exposure	Handle substance within a predominantly closed system proÁded 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. ProÁde 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 actiÁty 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 receiÁng 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: >80% minimum No specific onsite measures required. Efficacy: n.a.
Organizational measures to prevent / limit release from site	Do not release wastewater directly into enÁronment. 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. Below given values relate to PROC7 actiÁties.

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 Ib; 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:
PECcorrected = PECcalculated * (local emission fraction) * (local WWTP flow rate fraction) * (local river flow rate fraction) * (local STP efficiency fraction)
PECcorrected = 0.04 * (local emission [kg/day] / 6,7) * (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.

Exposure Scenario 6
Ethyl Acetate (CH3-COO-CH2-CH3) 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 actiÁties)
Human factors not influenced by risk management	Potentially exposed body parts: Two hands Exposed skin surface: 960 cm2
Other given operational conditions affecting workers exposure	Room size: n.a. Setting (indoor/outdoor): indoor
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
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:
PECcorrected = PECcalculated * (local emission fraction) * (local WWTP flow rate fraction) * (local river flow rate fraction) * (local STP efficiency fraction)
PECcorrected = 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.

Exposure Scenario 7
Ethyl Acetate (CH3-COO-CH2-CH3) 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 cm2
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

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 receiÁng 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 enÁronment. 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

Rs

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
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:
PECcorrected = PECcalculated * (local emission fraction) * (local WWTP flow rate fraction) * (local river flow rate fraction) * (local STP efficiency fraction)
PECcorrected = 0,8395 * (local emission [kg/day] / 0,16) * (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.

Exposure Scenario 8
Ethyl Acetate (CH3-COO-CH2-CH3) 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 cm2
Other given operational conditions affecting workers exposure	Room size: n.a. Setting (indoor/outdoor): Indoor

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 actiÁties where intimate skin contact is possible (PROC19) limit the duration of actiÁties 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 actiÁties 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 receiÁng surface water: 18,000m3/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 enÁronment. 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 measured 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 actiÁties when only PPE measures are available. All other actiÁties result in lower exposure estimates

Exposure estimate 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:
PECcorrected = PECcalculated * (local emission fraction) * (local WWTP flow rate fraction) * (local river flow rate fraction) * (local STP efficiency fraction)
PECcorrected = 0.14 * (local emission [kg/day] / 2,7) * (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.

Exposure Scenario 9
Ethyl Acetate (CH3-COO-CH2-CH3) 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: U
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 m3
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 receiÁng surface water: 18,000m3/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 m3/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

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.