

Fiche de données de sécurité
selon 1907/2006/CE, Article 31

Date d'impression : 29.12.2011

Numéro de version 1

Révision: 29.12.2011

1 Identification de la substance/du mélange et de la société/l'entreprise

· Identificateur de produit

- Nom du produit: **ALCOOL SURFIN**
- Code du produit: S-ALC-002
- Numéro d'enregistrement: Voir Chapitre 3
- Utilisations identifiées pertinentes de la substance ou du mélange et utilisations déconseillées: Voir annexe 1
- Emploi de la substance / de la préparation: Parfumerie, cosmétique
Pharmacie, laboratoire
Spiritueux
Produits alimentaires

· Renseignements concernant le fournisseur de la fiche de données de sécurité

- Producteur/fournisseur: Nadal Alcools
- Service chargé des renseignements: Nadal Alcools
2 Rampe de l'Observatoire
66660 Port-Vendres
Tel: +33 (0)4 68 82 03 02
contact@joseph-nadal.fr
- Numéro d'appel d'urgence: ORFILA téléphone: 01 45 42 59 59
SAMU : 15
POMPIERS: 18
Pour connaître la liste des médecins de garde contactez le 15.
Emergency Number 112

2 Identification des dangers

· Classification de la substance ou du mélange

- Classification selon le règlement (CE) n° 1272/2008



GHS02 flamme

Flam. Liq. 2 H225 Liquide et vapeurs très inflammables.



GHS07

Eye Irrit. 2 H319 Provoque une sévère irritation des yeux.

- Classification selon la directive 67/548/CEE ou directive 1999/45/CE



F; Facilement inflammable

R11: Facilement inflammable.

- Indications complémentaires: Limite de concentration spécifique: Ethanol ≥50% --> Eye Irrit.2

· Éléments d'étiquetage

- Etiquetage selon le règlement (CE) n° 1272/2008
- Pictogrammes de danger

Le produit est classifié et étiqueté selon le règlement CLP.



GHS02



GHS07

- Mention d'avertissement
- Mentions de danger
- Conseils de prudence

Danger

H225 Liquide et vapeurs très inflammables.

H319 Provoque une sévère irritation des yeux.

P210

Tenir à l'écart de la chaleur/des étincelles/des flammes nues/des surfaces chaudes. - Ne pas fumer.

P241

Utiliser du matériel électrique/de ventilation/d'éclairage/antidéflagrant.

P280

Porter des gants de protection/des vêtements de protection/un équipement de protection des yeux/du visage.

P240

Mise à la terre/liaison équipotentielle du récipient et du matériel de réception.

P233

Maintenir le récipient fermé de manière étanche.

P242

Ne pas utiliser d'outils produisant des étincelles.

P243

Prendre des mesures de précaution contre les décharges électrostatiques.

P264

Se laver soigneusement après manipulation.

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P303+P361+P353 **EN CAS DE CONTACT AVEC LA PEAU (ou les cheveux):** enlever immédiatement les vêtements contaminés. Rincer la peau à l'eau/se doucher.

P305+P351+P338 **EN CAS DE CONTACT AVEC LES YEUX:** rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer. Si l'irritation oculaire persiste: consulter un médecin.

P337+P313
P370+P378
En cas d'incendie: Utiliser pour l'extinction: CO₂, poudre d'extinction ou eau pulvérisée.

P403+P235
P501
Stocker dans un endroit bien ventilé. Tenir au frais.
Éliminer le contenu/réceptacle conformément à la réglementation locale/régionale/nationale/internationale.

· **Indications particulières concernant les dangers pour l'homme et l'environnement:**

Le produit ne possède pas, ou n'engendre pas en cours d'utilisation, d'autres propriétés dangereuses qui ne feraient pas l'objet d'une classification selon le règlement (CE) n°1272/2008.

· **Autres dangers**

· Résultats des évaluations PBT et vPvB

· PBT:

Le produit ne possède pas de propriétés PBT telles que définies à l'annexe XIII du règlement (CE) n°1907/2006.

· vPvB:

Le produit ne possède pas de propriétés vPvB telles que définies à l'annexe XIII du règlement (CE) n°1907/2006.

3 Composition/informations sur les composants

· **Caractérisation chimique: Mélanges**

Alcool éthylique neutre "surfin" issu de la fermentation levurienne de substrats agricoles (blé ou betteraves) suivie d'une distillation et d'une rectification.

· Composants dangereux:

CAS: 64-17-5 EINECS: 200-578-6 Numéro index: 603-002-00-5 RTECS: KQ 6300000 Reg.nr.: 01-2119457610-43-XXXX	alcool éthylique F R11 Flam. Liq. 2, H225; Eye Irrit. 2, H319	96%
	Eau déminéralisée - Eaux Parfumées	<10%

· Composants non dangereux:

Les autres composants de ce mélange ne sont pas classés selon les critères CLP et/ou directive 67/548/CE ou sont présents dans des concentrations inférieures aux valeurs seuils. Les autres composants de ce mélange ne présentent pas de valeurs limites d'exposition professionnelle.

· SVHC

néant

· Règlement (CE) No 648/2004 relatif aux

détergents / Étiquetage du contenu

Non applicable

· Indications complémentaires:

Pour le libellé des phrases de risque citées, se référer au chapitre 16.

4 Premiers secours

· **Description des premiers secours**

· Remarques générales:

Contactez le personnel secouriste et le service Hygiène Sécurité Environnement.
LA RAPIDITE EST ESSENTIELLE.

· Après inhalation:

En cas d'inconscience, coucher et transporter la personne en position latérale stable. En cas de malaise, recourir à un traitement médical. Amener les sujets à l'air frais et les garder au calme.

· Après contact avec la peau:

Laver immédiatement à l'eau. En cas d'irritation persistante de la peau, consulter un médecin. Enlever immédiatement les vêtements contaminés par le produit.

· Après contact avec les yeux:

Rincer les yeux, pendant 15 minutes, sous l'eau courante en écartant bien les paupières et consulter un ophtalmologiste. Vérifier que la victime ne porte pas de verres de contact, les retirer.

· Après ingestion:

Tourner sur le côté une personne couchée sur le dos, qui est en train de vomir. Ne pas faire vomir sauf indication contraire du corps médical. L'ingestion accidentelle à un niveau suffisamment élevé pour être dangereux pour la santé est peu probable.

· Indications destinées au médecin:

· Principaux symptômes et effets, aigus et différés

Yeux: Les liquides ou vapeurs peuvent causer une irritation des yeux.
Peau: Le produit peut causer une légère irritation cutanée en cas de contact répété ou prolongé.
Ingestion: L'ingestion peut avoir les effets suivants:
- Dépression du système nerveux central
- Nausées, vomissements
- Symptômes semblables à une intoxication par des boissons alcoolisées.
Inhalation: L'inhalation de fortes concentrations peut causer une irritation passagère des voies respiratoires, des maux de têtes, des nausées.

· Indication des éventuels soins médicaux immédiats et traitements particuliers nécessaires

Pas de traitement spécifique requis.

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5 Mesures de lutte contre l'incendie

- **Moyens d'extinction**

- Moyens d'extinction:

CO₂, poudre d'extinction ou eau pulvérisée. Combattre les foyers importants avec une mousse résistant à l'alcool.

Adapter les mesures d'extinction d'incendie à l'environnement.

- Produits extincteurs déconseillés pour des raisons de sécurité:

Un jet d'eau à grand débit peut propager le feu

- **Dangers particuliers résultant de la substance ou du mélange**

Monoxyde de carbone (CO)

Dioxyde de carbone

Des vapeurs peuvent former avec l'air un mélange explosif.

Les vapeurs, avec une source d'ignition, peuvent créer un embrasement instantané. Pas d'UVCE (explosion de vapeurs en milieu non-confiné)

Les eaux de ruissellement vers les égouts peut provoquer un incendie ou une explosion.

- **Conseils aux pompiers**

- Equipement spécial de sécurité:

Porter un appareil de respiration indépendant de l'air ambiant.

Ne pas inhaler les gaz d'explosion et les gaz d'incendie.

- **Autres indications**

Refroidir les récipients en danger en pulvérisant de l'eau.

6 Mesures à prendre en cas de dispersion accidentelle

- **Précautions individuelles, équipement de protection et procédures d'urgence**

Porter un appareil de protection respiratoire.

Porter un équipement de sécurité. Eloigner les personnes non protégées.

Eviter le contact avec la peau et les yeux

NE PAS TOUCHER ni marcher dans le produit répandu.

- **Précautions pour la protection de l'environnement:**

Eviter de rejeter à l'égout, les fosses et les caves.

En cas de pénétration dans les eaux ou les égouts, avertir les autorités compétentes.

Ne pas rejeter dans les canalisations, dans les eaux de surface et dans les nappes d'eau souterraines.

- **Méthodes et matériel de confinement et de nettoyage:**

Recueillir les liquides à l'aide d'un produit absorbant (sable, kieselguhr, neutralisant, liant universel, sciure).

Laisser évaporer.

Assurer une aération suffisante.

Utiliser du matériel antidéflagrant

Le nettoyage à grandes eaux de quantité importantes en direction des égouts n'est pas autorisé.

Afin d'obtenir des informations pour une manipulation sûre, consulter le chapitre 7.

Afin d'obtenir des informations sur les équipements de protection personnels, consulter le chapitre 8.

Afin d'obtenir des informations sur l'élimination, consulter le chapitre 13.

- **Référence à d'autres sections**

7 Manipulation et stockage

- **Manipulation:**

- Précautions à prendre pour une manipulation sans danger

Veiller à une bonne ventilation/aspiration du poste de travail.

Eviter la formation d'aérosols.

Porter les équipements de protection requis avant toute manipulation (voir chapitre 8)

Si possible, utiliser un système de transfert clos.

Reporter l'étiquetage d'origine sur tout récipient utilisé pour un prélèvement.

Prévoir des douches et fontaines oculaires sur les lieux d'utilisation.

- Préventions des incendies et des explosions:

Tenir à l'abri des sources d'inflammation - ne pas fumer.

Utiliser des appareils et armatures antidéflagrantes ainsi que des outils ne produisant pas d'étincelle.

Des vapeurs peuvent former avec l'air un mélange explosif.

Les équipements appropriés pour faire face aux incendies, les déversements et les fuites doivent être facilement accessibles.

Mise à la terre des équipements

- **Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités**

- Stockage:

- Exigences concernant les lieux et conteneurs de stockage:

Ne conserver que dans le fût d'origine.

N'utiliser que des emballages spécialement agréés pour la matière/le produit.

Les réservoirs de stockage doivent avoir une liaison équipotentielle électrique et une mise à la terre.

Alcool éthylique:

Matières compatibles: acier inoxydable, titane, bronze, fonte, carbone, polypropylène, néoprène, nylon, céramique, verre.

Matières incompatibles: caoutchouc naturel, PVC, méthyl-méthacrylate plastics, polyamides, zinc, laiton, aluminium sous certaines conditions.

- Indications concernant le stockage commun:

Ne pas stocker avec des substances oxydantes ou acides.

- Autres indications sur les conditions de stockage:

Stocker au frais et au sec dans des fûts bien fermés.

Protéger de la forte chaleur et du rayonnement direct du soleil.

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Pas d'autres informations importantes disponibles.

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8 Contrôles de l'exposition/protection individuelle

· **Indications complémentaires pour****l'agencement des installations techniques:** Sans autre indication, voir point 7.· **Paramètres de contrôle**

· Composants présentant des valeurs-seuil à surveiller par poste de travail:

Les autres substances ne présentent pas de valeurs limites d'exposition professionnelle.

64-17-5 alcool éthylique

VME (France)	Valeur momentanée: 9500 mg/m ³ , 5000 ppm Valeur à long terme: 1900 mg/m ³ , 1000 ppm
PEL (U.S.A.)	1900 mg/m ³ , 1000 ppm
REL (U.S.A.)	1900 mg/m ³ , 1000 ppm
TLV (U.S.A.)	Valeur momentanée: 1880 mg/m ³ , 1000 ppm
AGW (Allemagne)	960 mg/m ³ , 500 ppm 2(II);DFG, Y

· **DNEL****64-17-5 alcool éthylique**

DNEL	(-) Inhalation (short term, local) : 19. mg/m ³ (1000ppm) Inhalation (long term, systemic): 950 mg/m ³ (500ppm) Dermal (long term, systemic): 343 mg/kgbw/day
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· **PNEC****64-17-5 alcool éthylique**

PNEC	(-) Eau douce: 096 mg/l Eau de mer: 0.79 mg/l Sédiment d'eau douce: 3.6 mg/kgdw Sédiment marin: 2.9 mg/kgdw sol: 0.63 mg/kgdw oral: 0.72 g/kg d'aliment
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· Remarques supplémentaires:

Le présent document s'appuie sur les listes en vigueur au moment de son élaboration.

· **Contrôles de l'exposition**

Les mesures de contrôle appropriées pour un lieu de travail particulier dépendent de la façon dont le produit est utilisé et du potentiel d'exposition.
Si les contrôles techniques et les modes opératoires ne sont pas efficaces dans la prévention ou le contrôle de l'exposition, les équipements de protections individuels, qui donnent des résultats satisfaisants, doivent être utilisés.

· Equipement de protection individuel:

· Mesures générales de protection et d'hygiène:

Respecter les mesures de sécurité usuelles pour l'utilisation de produits chimiques.
Se laver les mains avant les pauses et en fin de travail.

Ne pas inhaler les gaz, les vapeurs et les aérosols.

Éviter tout contact avec les yeux et avec la peau.

Favoriser la mise en place de mesures de protection collectives par rapport aux mesures de protection individuelle.

· Protection respiratoire:

Utiliser un appareil de protection respiratoire si la ventilation est insuffisante.

En cas de risque d'exposition au delà des valeurs moyennes d'exposition, port obligatoire d'un équipement individuel de protection respiratoire.

Utiliser des appareils conformes à une norme approuvée.

· Filtre recommandé pour une utilisation momentanée:

Attention! Les filtres ont une durée d'utilisation limitée.

Filtre combiné adéquat par exemple ABEK- P2

· Protection des mains:



Gants de protection

Norme EN 374

Se référer aux informations sur les résistances chimiques de chaque gant et mener un essai préalable pour déterminer si le gant est adapté aux conditions d'utilisations réelles.

Changer régulièrement les gants.

Contrôler la perméabilité avant chaque nouvelle utilisation du gant.

Choix du matériau des gants en fonction des temps de pénétration, du taux de perméabilité et de la dégradation.

· Matériau des gants

Le choix de gants appropriés ne dépend pas seulement du matériau, mais également d'autres critères de qualité qui peuvent varier d'un fabricant à l'autre.

Butylcaoutchouc

Caoutchouc nitrile

Gants en caoutchouc synthétique

· Temps de pénétration du matériau des gants

Pour le mélange des produits chimiques mentionnés ci-dessous, le temps de pénétration doit être d'au moins 480 minutes (perméabilité selon la norme EN 374 section 3: taux >0,5mm).

Le temps de pénétration exact est à déterminer par le fabricant des gants de protection et à respecter.

· Protection des yeux:



Lunettes de protection hermétiques

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· Protection du corps:

Vêtements de travail protecteurs

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9 Propriétés physiques et chimiques

· Informations sur les propriétés physiques et chimiques essentielles

· Indications générales.

· Aspect:

Forme: Liquide

Couleur: Incolore

· Odeur: Genre alcool

· Seuil olfactif: Information non disponible

· valeur du pH: Neutre

· Changement d'état

Point de fusion: -114°C

Point d'ébullition: 78°C

· Point d'éclair: ≤23°C

· Inflammabilité (solide, gazeux): Non applicable.

· Température d'auto-inflammation: 425°C

· Température de décomposition: Non déterminé.

· Auto-inflammation: Le produit ne s'enflamme pas spontanément.

· Danger d'explosion: Le produit n'est pas explosif; toutefois, des mélanges explosifs vapeur-air peuvent se former.

· Limites d'explosion:

Inférieure: 2,5 Vol %

Supérieure: 13,5 Vol %

· Pression de vapeur à 20°C: 57,26 hPa

· Densité à 20°C: 0,7967 g/cm³· Masse volumique à 20°C: 790 kg/m³

· Solubilité dans/miscibilité avec l'eau:

Entièrement miscible

· Coefficient de partage (n-octanol/eau): -0,35 log POW (Ethanol)

· Viscosité:

Dynamique à 20°C: 1,2 mPas (Ethanol)

· Teneur en solvants:

Solvants organiques: 100,0 %

· Autres informations

Pas d'autres informations importantes disponibles.

· VOC (selon Directive 1999/13/CE):

Le produit est considéré comme COV selon cette directive.

Les mesures de réduction, telles que l'incinération ou la récupération des solvants, doivent être combinées à des mesures de contrôle des émissions fugitives pour être en conformité avec cette directive.

10 Stabilité et réactivité

· Réactivité

· Stabilité chimique

· Décomposition thermique/conditions à éviter:

Pas de décomposition en cas d'usage conforme.

· Possibilité de réactions dangereuses

Réagit au contact des métaux légers en formant de l'hydrogène.

Réactions aux peroxydes.

Réactions aux composés halogénés.

· Conditions à éviter

Chaleur / source de chaleur

Éviter l'accumulation de charges électrostatiques.

La lumière solaire directe

· Matières incompatibles:

Les agents oxydants

Peroxydes (H₂O₂, Na₂O₂, K₂O)Acides oxydants et sels (HNO₃, MnO₄K...)Acides et sels (H₂SO₄, HClO₄)

Organométalliques

Hydrogène

Phosphore, arsenic, antimoine

Oxydes métalliques (CrO₃, HgO)

Nitrate d'argent

Nitrate de mercure

Perchlorate de magnésium

· Produits de décomposition dangereux:

La combustion génère des oxydes de carbone

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11 Informations toxicologiques

· Informations sur les effets toxicologiques

· Toxicité aiguë:

· Valeurs LD/LC50 déterminantes pour la classification:

64-17-5 alcool éthylique

Oral	LD50	6200 - 15000 mg/kg (rat) (OECD401 equivalent)
Inhalatoire	LC50	>50 mg/m3 (rat) (OECD403 equivalent)

· Par voie orale: Les données disponibles indiquent que les critères de classification ne sont pas remplis
 · Par voie cutanée: Les données disponibles indiquent que les critères de classification ne sont pas remplis
 · Par inhalation: Les données disponibles indiquent que les critères de classification ne sont pas remplis

· Effet primaire d'irritation:

· Corrosion cutanée / irritation cutanée: Les données disponibles indiquent que les critères de classification ne sont pas remplis
 · Lésions oculaires graves / irritation oculaire: Les études menées selon l'OCDE405, montrent une irritation modérée des yeux. Le niveau de réponse n'est pas suffisant pour déclencher une classification selon la Directive 67/548, mais suffisant pour exiger une classification selon le Règlement 1272/2008. Provoque une sévère irritation des yeux.

· Sensibilisation:

· Sensibilisation respiratoire ou cutanée: Pas d'effet sensibilisant connu.
 · Autres indications (sur la toxicologie expérimentale): Le contact fréquent ou prolongé avec la peau détruit l'enduit cutané lipoacide et peut provoquer des dermatoses
 · Toxicocinétique, métabolisme et distribution: Chez l'homme, l'ethanol est rapidement absorbé par voie oral ou par inhalation, distribué dans tous les tissus et les organes et rapidement métabolisé et excrété. Ne s'accumule pas dans le corps. L'absorption cutanée est faible

· Toxicité spécifique pour certains organes cibles (STOT):

· après une exposition répétée: Les données disponibles indiquent que les critères de classification ne sont pas remplis
 · après une exposition unique: Les données disponibles indiquent que les critères de classification ne sont pas remplis
 · Toxicité par aspiration: Pas d'effet.

· Effets CMR (cancérogène, mutagène et toxique pour la reproduction):

· Cancérogénicité: Les données disponibles indiquent que les critères de classification ne sont pas remplis
 · Mutagénicité sur les cellules germinales: Les données disponibles indiquent que les critères de classification ne sont pas remplis
 · Toxique pour la reproduction: La concentration sanguine d'Ethanol résultant de l'exposition par toute autre voie qu'une consommation orale délibérée et répétée à peu de chance d'atteindre des niveaux associés à des effets sur le développement et la reproduction. La consommation excessive de boissons alcoolisées pendant la grossesse peut être à l'origine du Syndrome d'Alcoolisation Foetale chez l'enfant, pouvant induire une réduction du poids de naissance, malformations et déficience intellectuelle. Il n'existe aucune preuve que de tels effets pourraient être causés par des expositions autres que l'ingestion directe de boissons alcoolisées. Selon ces données; il peut être conclu d'une impossibilité d'atteindre les doses d'ethanol provoquant des effets néfastes pour la reproduction autrement que par une consommation répétée d'une grande quantité de boissons alcoolisées associée à un problème d'alcoolisme.

12 Informations écologiques

· Toxicité

· Toxicité aquatique: Toxicité presque nulle pour les organismes aquatiques

64-17-5 alcool éthylique

CE50 (écologique)	275mg/l, 72h mg/l (ALGUES) (Chlorella vulgaris) EC10: 11.5 mg/l Selenastrum capricornutum : EC50, 72h: 12.9 g/l - EC10: 0.44 g/l Chlamydomonas eugametos: EC50, 48h: 18 g/l - NOEC: 7.9 g/l
Aquatic algae saltwater:	
Skeletonema costatum, NOEC (5 days):	3.24 g/l.
12,34g/l, 48h mg/l (DAPHNIES) (Daphnia magma)	
Daphnia magma: NOEC (reproduction, 21 days):	>10 mg/l
Cériodaphnia dubia: EC50, 48h: 5.012g/l; NOEC (reproduction, 10 days):	9.6 mg/l
Palaemonetes pugio NOEC (developmental, 10 days):	79 mg/l
Invertebrates saltwater:	
Artemia salina: EC50, 24h: 23.9 g/l (>10g/l)	
Artemia salina nauplii: EC50, 48h: 857 mg/l	
LC50 (écologique)	13 g/l, 96h mg/l (POISSONS) (Salmo gairdneri) Pimephales promelas: 13.5, 14.2 and 15.3 g/l

· **Persistance et dégradabilité** Le produit devrait se dégrader rapidement dans les stations de traitement des eaux usées.

64-17-5 alcool éthylique

Biodegradabilité	(-) Facilement biodégradable
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· Autres indications: Le produit est aisément biodégradable.
 · **Comportement dans les compartiments de l'environnement:**
 · Potentiel de bioaccumulation: Le produit est volatil et demeure dans la phase atmosphérique

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Le produit s'évapore rapidement s'il est déversé sur le sol
Selon le coefficient de partage, le produit a un faible potentiel de bioaccumulation.

64-17-5 alcool éthylique

Log Pow | -0,35 (-)

· Mobilité dans le sol

Si le produit est rejeté dans l'environnement, il se répartit dans l'air et l'eau.
Le produit est très peu absorbé par les sols ou les sédiments.

· **Autres indications écologiques:**

· Valeur DCO:

Information non disponible

· Valeur DBO5:

Information non disponible

· Indications générales:

Ne pas laisser pénétrer dans la nappe phréatique, les eaux ou les canalisations.

· **Résultats des évaluations PBT et VPVB**

· PBT:

Le produit ne possède pas de propriétés PBT telles que définies à l'annexe XIII du règlement (CE) n°1907/2006.

· vPvB:

Le produit ne possède pas de propriétés vPvB telles que définies à l'annexe XIII du règlement (CE) n°1907/2006.

· **Autres effets néfastes**

Pas d'autres informations importantes disponibles.

13 Considérations relatives à l'élimination

· **Méthodes de traitement des déchets**

· Recommandation:

Ne doit pas être évacué avec les ordures ménagères. Ne pas laisser pénétrer dans les égouts.
Pour la manipulation des déchets, prendre les précautions définies aux chapitres 7 et 8.
Réutilisation ou recyclage lorsque c'est possible, sinon incinération selon les méthodes recommandées d'élimination.

· **Emballages non nettoyés:**

· Recommandation:

Les emballages ne pouvant pas être nettoyés doivent être évacués de la même manière que le produit.

Ne pas découper, perforer ou souder sur ou à proximité des emballages vides.

Les emballages vides peuvent contenir des résidus dangereux.

Ne pas retirer l'étiquette de l'emballage tant qu'il n'est pas nettoyé.

Ne pas traiter l'emballage vide comme un déchet ménager.

Ne pas incinérer un emballage fermé.

· Produit de nettoyage recommandé:

Eau, éventuellement avec des produits de nettoyage

14 Informations relatives au transport

· **No ONU**

· ADR, IMDG, IATA

UN1170

· **Nom d'expédition des Nations unies**

· ADR

1170 ETHANOL EN SOLUTION (ALCOOL ÉTHYLIQUE EN SOLUTION)

· IMDG

ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

· IATA

ETHANOL SOLUTION

· **Classe(s) de danger pour le transport**

· ADR



· Classe

3 (F1) Liquides inflammables.

· Étiquette

3

· IMDG, IATA



· Class

3 Flammable liquids.

· Label

3

· **Groupe d'emballage**

· ADR, IMDG, IATA

II

· **Précautions particulières à prendre par l'utilisateur** Attention: Liquides inflammables.

· Indice Kemler:

33

· No EMS:

F-E,S-D

· **Transport en vrac conformément à l'annexe II de la convention Marpol 73/78 et au recueil IBC**

Non applicable.

· **Indications complémentaires de transport:**

· ADR

· Quantités limitées (LQ)

1L

· Catégorie de transport

2

(suite page 8)

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 29.12.2011

Numéro de version 1

Révision: 29.12.2011

Nom du produit: ALCOOL SURFIN

(suite de la page 7)

· Code de restriction en tunnels	D/E
· "Règlement type" de l'ONU:	UN1170, ETHANOL EN SOLUTION (ALCOOL ÉTHYLIQUE EN SOLUTION), 3, II

15 Informations réglementaires

- **Réglementations/législation particulières à la substance ou au mélange en matière de sécurité, de santé et d'environnement**
- Etiquetage selon le règlement (CE) n° 1272/2008 voir chapitre 2
- Indications sur les restrictions de travail: Respecter les réglementations nationales applicables (ICPE, Code du travail, Maladies professionnelles...)
- Substances extrêmement préoccupantes (SVHC) selon REACH, article 57 Néant
- **Évaluation de la sécurité chimique:** Une évaluation de la sécurité chimique a été réalisée.

16 Autres informations

Ces indications sont fondées sur l'état actuel de nos connaissances, mais ne constituent pas une garantie quant aux propriétés du produit et ne donnent pas lieu à un rapport juridique contractuel.

Pour la France, en cas d'intoxication, appelez le Centre Antipoison (de préférence de votre région) ou le SAMU (15)

Angers: 02 41 48 21 21 - Bordeaux: 05 56 96 40 80

Lille: 0 825 812 822 - Lyon: 04 72 11 69 11

Marseille: 04 91 75 25 25 - Nancy: 03 83 32 36 36

Paris: 01 40 05 48 48 - Rennes: 02 99 59 22 22

Strasbourg: 03 88 37 37 37 - Toulouse: 05 61 77 74 47

- Texte intégrale des phrases R, S, H et P utilisées dans le document:
 - H225 Liquide et vapeurs très inflammables.*
 - H319 Provoque une sévère irritation des yeux.*
 - R11 Facilement inflammable.*
- Acronymes et abréviations:
 - ADR: Accord européen sur le transport des marchandises dangereuses par Route*
 - RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer*
 - IMDG: International Maritime Code for Dangerous Goods*
 - IATA: International Air Transport Association*
 - ICAO: International Civil Aviation Organization*
 - GHS: Globally Harmonized System of Classification and Labelling of Chemicals*
 - DNEL: Derived No-Effect Level (REACH)*
 - PNEC: Predicted No-Effect Concentration (REACH)*
 - LC50: Lethal concentration, 50 percent*
 - LD50: Lethal dose, 50 percent*
- * Données modifiées par rapport à la version précédente

FR

(suite page 9)

Fiche de données de sécurité
selon 1907/2006/CE, Article 31

Date d'impression : 29.12.2011

Numéro de version 1

Révision: 29.12.2011

Nom du produit: ALCOOL SURFIN

(suite de la page 8)

Annexe: Scénario d'exposition**· Désignation brève du scénario d'exposition** Voir annexe 1.

FR

LIST OF EXPOSURE SCENARIOS
(Additional guidance to assist in identifying appropriate ES's to use)

List of Exposure Scenarios		SU	PROCs	ERC	PCs	Description of activities
ES	Descriptive Title					
ES1	Industrial manufacturing of ethanol and use as intermediate or process chemical.	SU3, SU8, SU9	PROC1, PROC2, PROC3, PROC4, PROC8a,b	ERC1, 4, 6a	n.a.	Covers the industrial manufacture of Ethanol at controlled manufacturing plants in continuous and batch processes. Includes recycling/ recovery, material transfers, filling, storage, maintenance and loading, sampling and use as an intermediate or process chemical.
ES2	Distribution of Ethanol	SU3, SU8, SU9	PROC8a,b, PROC9,	ERC2	n.a.	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. Intended for e.g. traders, distributors, transporters, etc. Covers

ES3	Industrial formulation and (re)packing of Ethanol and its mixtures	SU3, SU10	PROC3, PROC5, PROC8a, PROC8b, PROC9, PROC14	ERC2		fuel activities. Industrial mixing or blending in batch processes for formulation of preparations, 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. This Exposure Scenario covers activities of formulators/producers of industrial, professional and/or consumer products such as cleaning agents, cosmetics, coatings, paints, inks, lubricants, adhesives, pharmaceuticals, fuels etc. In these products and processes, ethanol is used as an ingredient, solvent, additive or stabilizer.
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ES4	Industrial (end) use of ethanol as such or in preparations in non-spray application (e.g. as processing aid, cleaning agent, solvent or ingredient in coatings, fuel source)	SU3	PROCI0, PROCI3	ERC4,	Indoor roller application, brushing and treatment of surfaces. Treatment of articles by dipping and pouring.
ES5	Industrial (end) use of ethanol as such or in preparations by spraying (e.g. as processing aid, cleaning agent, solvent or ingredient in coatings, paints and inks)	SU3	PROCI7	ERC4	Indoor painting, application of coatings, adhesives, polishes/cleaners, air care products and other mixtures containing ethanol by automated spraying techniques in factories or comparable industrial settings.
ES6a	Industrial use of	SU3	PROCI6	ERC7	Use as fuel or fuel additive

	ethanol as fuel source						in industrial setting.
ES6b	Professional use of ethanol as fuel source	SU22	PROC16	ERC9a, 9b			Use as fuel or fuel additive in professional and public domain setting.
ES7	Professional (end) use of ethanol as such or in preparations in non-spray application (e.g. as processing aid, cleaning agent, application of coatings, fuel source)	SU22	PROC10, PROC13, PROC14, PROC19	ERC8a, 8d			Indoor roller application, brushing and treatment of surfaces. Treatment of articles by dipping and pouring. Use as fuel source in professional and public domain setting. Includes stabilization of explosives.
ES8	Professional application of paints, coatings, adhesives, cleaners and other mixtures/pro ducts containing ethanol by	SU22	PROC11	ERC8a, 8d			Non industrial / professional spraying of mixtures and products such as paints, coatings, adhesives, polishes, cleaners, deicers, screenwash etc.

	spraying.							
ES9a	Consumer use of products which contain ethanol	SU21	n.a.	ERC9a, 9b	13	Use of automotive fuels which contain ethanol		
ES9b	Consumer use of products which contain ethanol	SU21	n.a.	ERC8a, 8d	13	Use of ethanol in domestic fuel products (ethanol gel burners, fondue sets, heaters etc)		
ES9c	Consumer use of products which contain ethanol	SU21	n.a.	ERC8a, 8d	1, 3, 8, 12, 14, 15, 18, 23, 24, 27, 28, 30, 31, 34, 39	Use of ethanol in consumer products with amount applied in use of <50g per event		

ES9d	Consumer use of products which contain ethanol	SU21	n.a.	ERC9a, 9b	16, 17	Use of ethanol in consumer products in enclosed systems (with no expected exposure to ethanol during use)
ES9e	Consumer use of products which contain ethanol	SU21	n.a.	ERC8a, 8d	9a	Consumer use of ethanol in coatings and paint products
ES9f	Consumer use of products which contain ethanol	SU21	n.a.	ERC8d	4	Consumer use of ethanol in antifreeze, deicing and screenwash products
ES9g	Consumer use of products which contain ethanol	SU21	n.a.	ERC8a, 8d	35	Consumer use of ethanol in washing and cleaning products
ES10	Industrial use as laboratory reagent	SU3	PROC15	ERC2, 4, 8a		Use of substances at small scale laboratory (< 1 l or 1 kg). Larger laboratories and R+D installations should be treated as industrial processes.

ES11	Industrial and professional (end) use of ethanol as a heat transfer fluid	SU3, SU22	PROC20	ERC7, 9a, 9b	Heat and pressure transfer fluids in dispersive, professional use but closed systems
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Ethanol

(CH₃-CH₂-OH)

CAS: 64-17-5

Exposure Scenarios for Safety Data Sheets

CSR Variant 1- Manufacturer, fermentation, all uses

Title: Exposure Scenario for Industrial manufacturing of Ethanol, or use as intermediate or process chemical		
Ethanol REACH Association reference no. ES1		
Systematic title based on use descriptor	SU3, SU8, SU9 PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b ERC1, ERC4, ERC6A	
Processes, tasks, activities covered	Covers the industrial manufacture of Ethanol at controlled manufacturing plants in continuous and batch processes. Includes recycling/ recovery, material transfers, filling, storage, maintenance and loading, sampling and use as an intermediate or process chemical.	
Assessment Method	Ecetoc TRA integrated model version 2, EUSES v.2.	
1. Exposure Scenario		
1.1 Operational conditions and risk management measures		
<p>Process categories: 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. Sampling, loading, filling, storage and transfer under controlled conditions at the manufacturing site is also included.</p> <p>Environmental release categories: Manufacture, and industrial use as intermediate or process chemical of organic substances using continuous processes or batch processes applying dedicated or multi-purpose equipment, either technically controlled or operated by manual interventions.</p> <p>Number of sites using the substance: Substance widely used.</p>		
1.2 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	5,73 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 (automated processes/PROC1, 2) Two hands (transfer, filling, etc./PROC8a,b)
	Exposed skin surface	480 cm ² (automated processes/PROC1, 2, 3,4) 960 cm ² (transfer, filling, etc./PROC8a,b)
Other given operational conditions affecting workers exposure	Assumes a good basic standard of occupational hygiene is implemented.	
	Setting (indoor/outdoor)	Outdoor
Technical conditions and measures at process level (source) to prevent release	No specific technical prevention measures required for process in high integrity contained systems with little potential for exposure or with only occasional minor exposure through e.g. maintenance and sampling.	
Technical conditions and measures to control dispersion from source towards the worker	Ventilation	None required
	Efficiency rate	95 %
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. No specific organizational measures required for processes in high integrity contained systems with little potential for exposure or with only occasional minor exposure through e.g. maintenance and sampling. 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	Not required for normal operations
1.3 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	400,000 t/year (maximum plant size, worst case)
	Annually total	4,600,000 t/year total market
Frequency and duration of use	Pattern of release	Continuous 350 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 and/or 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% (for ethanol)
	Apply technical measures aiming at reduction and cleaning of waste water (WWTP /local STP (e.g. biological treatment))	Efficacy >87% (for ethanol)
Organizational measures to prevent/limit release from site	Do not release wastewater directly into environment	Wastewater release into local or municipal STP.
Conditions and measures related to municipal sewage treatment plant	Size of STP	>= 2000 m ³ /day
	Degradation efficacy	90% (for ethanol)
	Sludge treatment	Disposal or recovery
Conditions and measures related to treatment of waste	Hazardous waste incineration or dispose for use in recycled fuels	

2. Exposure estimation

Workers exposure estimation is calculated with Ecetoc TRA model v2.. Below given exposure estimates are based on the PROC with the highest exposure levels in this scenario (PROC8a).

Workers exposure	Exposure estimate	DNEL	Comment
Inhalation (mg/m³)	96.04	950 (OEL)	PROC 8a results in the highest exposure in this exposure scenario
Dermal (mg/kg/day)	13.71	343	
Combined (mg/kg/day)	27.43	343	

Environmental exposure estimation is calculated with EUSES 2.0 model. Ethanol is fully soluble in water, readily biodegradable, not bio-accumulative, does not accumulate in the sediments or soil and is assumed to degrade by 90% in the local and/or municipal STP under evaluated conditions.

Release times per year (day/year)	350	Local release to air (kg/day)	226.0
Fraction used at main local source	0.086	Local release to waste water (kg/day)	11.3
Amount used locally (kg/day)	0	Local release to soil (kg/day)	0
Environmental exposure	PEC	PNEC	Comment
In STP / untreated wastewater(mg/l)	5.65	580	-
In local freshwater (mg/l)	0.0000264	0,96	-
In local soil	0.00119 (mg/kg)	0,63 (mg/kgwwt)	-
In local marine water (mg/l)	0.00000224	0,79	-
Total daily intake via local environment (mg/kgdw/d)	Negligible compared to daily dietary intake and endogenous formation.		

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 and EUSES v2.0 respectively.

If the local environmental emission conditions deviate significantly from the used default values, please use the algorithm below 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)

Example for calculating your local freshwater PEC:

Corrected local freshwater PEC = $0,0000264 * (\text{your local emission [kg/day]} / 350) * (2000 / \text{your local WWTP flow rate [m3/day]}) * (18000 / \text{your local river flow rate [m3/day]}) * ((1 - \text{your local WWTP efficiency})/0.1)$

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.

Title: Exposure Scenario for Industrial distribution of Ethanol		
Ethanol REACH Association reference no. ES2		
Systematic title based on use descriptor	SU3, SU8, SU9 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, loading (including marine vessel/barge, rail/road car and IBC loading), storage, and repacking (including drums and small packs) of substance, including its distribution. Intended for e.g. traders, distributors, transporters, etc.	
Assessment Method	Ecetoc TRA integrated model version 2	
1. Exposure Scenario		
1.1 Operational conditions and risk management measures		
<p>Process categories: Sampling, loading, filling, transfer, drumming, bagging in non-dedicated facilities. Exposure related to vapour, aerosols or spillage, and cleaning of equipment to be expected.</p> <p>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 pastes, fuels, household products (cleaning products), cosmetics, lubricants etc.</p> <p>Number of sites using the substance: Substance widely used.</p>		
1.2 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	5,73 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 ²
Other given operational conditions affecting workers exposure	Assumes a good basic standard of occupational hygiene is implemented.	
	Setting (indoor/outdoor)	Outdoor or in ventilated (open) spaces
Technical conditions and measures at process level (source) to prevent release	No specific technical prevention measures required	
Technical conditions and measures to control dispersion from source towards the worker	Outdoors	No specific measures identified.
	If indoors	Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour). Ensure material transfers are under containment or extract ventilation. Provide good ventilation to points where emissions occur.
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified.	
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.	
1.3 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	75,000 t/year (worst case scenario, at point source)
	Annually total	3,800,000 t/year total market
Frequency and duration of use	Pattern of release	300 days per year
Environment factors not influenced by	Flow rate of receiving surface water	18,000m ³ /day (default)

risk management		
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. 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	Do not release wastewater directly into environment	Wastewater release into local or municipal STP.
Conditions and measures related to municipal sewage treatment plant	Size of STP	>2000 m ³ /day
	Degradation efficacy	>90% (for ethanol)
	Sludge treatment	Disposal or recovery
Conditions and measures related to treatment of waste	Hazardous waste incineration or dispose for use in recycled fuels	

2. Exposure estimation

Workers exposure estimation is calculated with Ecetoc TRA model v2.. Below given exposure estimates are based on the PROC with the highest exposure levels in this scenario (PROC8a).

Workers exposure	Exposure estimate	DNEL	Comment
Inhalation (mg/m ³)	96.04	950 (OEL)	PROC 8a results in the highest exposure in this exposure scenario
Dermal (mg/kd/day)	13.71	343	
Combined (mg/kg/day)	27.43	343	

Environmental exposure estimation is based on Ecetoc TRA model v2 including the data from TGD A&B tables (MC-1b, IC-2, UC-48, fraction main source 0,1) and based on the worst-case scenario with point-source production volume of 15,000 tpa. Ethanol is fully soluble in water, readily biodegradable, not bio-accumulative, does not accumulate in the sediments or soil and is assumed to degrade for 90% in the local and/or municipal STP under evaluated conditions.

Release times per year (day/year)	300	Local release to air (kg/day)	50
Fraction used at main local source	0.1	Local release to waste water (kg/day)	15
Amount used locally (kg/day)	5000	Local release to soil (kg/day)	1
Environmental exposure	PEC	PNEC	Comment
In STP / untreated wastewater(mg/l)	4.66	580	-
In local freshwater (mg/l)	0,52	0,96	-
In local soil	0.007 (mg/kg)	0,63 (mg/kgwwt)	-
In local marine water (mg/l)	0,0515	0,79	-
Total daily intake via local environment (mg/kgdw/d)	Negligible compared to daily dietary intake and endogenous formation.		

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 and EUSES v2.0 respectively.

If the local environmental emission conditions deviate significantly from the used default values, please use the algorithm below to estimate the correct local emissions and RCRs:

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

Example for calculating your local freshwater PEC:

Corrected freshwater PEC = 0,104 * (your local emission [kg/day] / 15) * (2000 / your local WWTP flow rate [m³/day]) * (18000 / your local river flow rate [m³/day]) * ((1 - your 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.

Title: Exposure Scenario for Industrial formulation and (re)packing of Ethanol, and its mixtures		
Ethanol REACH Association reference no. ES3		
Systematic title based on use descriptor	SU3, SU10 PROC3, PROC5, PROC8a, PROC8b, PROC9, PROC14 ERC 2	
Processes, tasks, activities covered	Covers industrial formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, large and small scale packing, maintenance. Includes formulation of fuels containing ethanol.	
Assessment Method	Ecetoc TRA integrated model version 2, EUSES v.2.	
1. Exposure Scenario		
1.1 Operational conditions and risk management measures		
<p>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.</p> <p>Environmental release category: Manufacture of organic and inorganic substances in chemical, petrochemical, 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</p> <p>Number of sites using the substance: Substance widely used.</p>		
1.2 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	5,73 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 (automated processes/PROC3) Two hands (transfer, filling, etc./PROC8a,b)
	Exposed skin surface	480 cm ² (automated processes/PROC3) 960 cm ² (transfer, filling, etc./PROC8a,b)
Other given operational conditions affecting workers exposure	Assumes a good basic standard of occupational hygiene is implemented.	
	Setting (indoor/outdoor)	Indoors
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	Ensure material transfers are under containment or extract ventilation. Provide good ventilation to points where emissions occur. Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour).	
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 measures required. Wear suitable gloves tested to EN374 during the activities where excessive skin contact is possible.	
1.3 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	280,000 t/year (maximum at point source in worst case)
	Annually total	3,800,000 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 ³ /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. Waste product and empty containers should be disposed of as hazardous waste in accordance with all local and national regulations. Formulation activity is assumed to be a predominantly enclosed process.	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	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 ³ /day
	Degradation efficacy	90% (for ethanol)
	Sludge treatment	Disposal or recovery
Conditions and measures related to treatment of waste	Hazardous waste incineration or dispose for use in recycled fuels	

2. Exposure estimation

Workers exposure estimation is calculated with Ecetoc TRA model v2.. Below given exposure estimates are based on the PROC with the highest exposure levels in this scenario (PROC8a).

Workers exposure	Exposure estimate	DNEL	Comment
Inhalation (mg/m³)	96.04	950	PROC 8a results in the highest exposure in this exposure scenario
Dermal (mg/kg/day)	13.71	343	
Combined (mg/kg/day)	27.43	343	

Environmental exposure estimation is based on Ecetoc TRA model v2 including the data from TGD A&B tables (MC-Ib, IC-9, UC-27, fraction main source 0,1) and based on the worst-case scenario.

Ethanol is fully soluble in water, readily biodegradable, not bio-accumulative, does not accumulate in the sediments or soil and is assumed to degrade by 90% in the local and/or municipal STP under evaluated conditions.

Release times per year (day/year)	300	Local release to air (kg/day)	469
Fraction used at main local source	0.1	Local release to waste water (kg/day)	28
Amount used locally (kg/day)	93.333	Local release to soil (kg/day)	9
Environmental exposure	PEC	PNEC	Comment
In STP / untreated wastewater(mg/l)	1.73	580	-
In local freshwater (mg/l)	0,185	0,96	-
In local soil	0,0117 (mg/kg)	0,63 (mg/kgwwt)	-
In local marine water (mg/l)	0,0186	0,79	-
Total daily intake via local environment (mg/kgdw/d)	Negligible compared to daily dietary intake and endogenous formation.		

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 algorithm below to estimate the correct local emissions and RCRs:

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

Example for calculating your local freshwater PEC:

$Corrected\ local\ freshwater\ PEC = 0,185 * (\text{your local emission [kg/day]} / 28) * (2000 / \text{your local WWTP flow rate [m}^3/\text{day]}) * (18000 / \text{your local river flow rate [m}^3/\text{day]}) * ((1 - \text{your local WWTP efficiency})/0.1)$

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.

Title: Exposure Scenario for Industrial use of Ethanol in non-spray applications

Ethanol REACH Association reference no. ES4

Systematic title based on use descriptor	SU3 PROC10, PROC13 ERC4
Processes, tasks, activities covered	Covers industrial (end) use of ethanol as such or in preparations in non-spray application (e.g. as processing aid, cleaning agent, solvent or ingredient in coatings). Indoor roller application, brushing and treatment of surfaces, treatment of articles by dipping/ pouring/ immersing/ soaking, etc.
Assessment Method	Ecetoc TRA integrated model version 2

1. Exposure Scenario

1.1 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 dyeing, 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. Use of substances at small-scale laboratory (< 1 l or 1 kg). Covers also the use of the substance as fuel sources (including additives) where limited exposure to the product in its unburned form is expected.

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.

1.2 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	5,73 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 (PROC13) Two hands (PROC10)
	Exposed skin surface	480 cm ² (PROC13) 960 cm ² (PROC10)
Other given operational conditions affecting workers exposure	Assumes a good basic standard of occupational hygiene is implemented.	
	Setting (indoor/outdoor)	Indoors and outdoors
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	Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour) when working indoors. Ensure material transfers are under containment or extract ventilation. Provide good ventilation to points where emissions occur.	
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 required. Wear suitable gloves tested to EN374 during the activities where prolonged or frequent skin contact is possible.	

1.3 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	2,750 t/year (general)
	Annually total	27,500 t/year (general) total market
Frequency and duration of use	Pattern of release	300 days per year

Environment factors not influenced by risk management	Flow rate of receiving surface water	18,000m ³ /day (default)
Other given operational conditions affecting environmental exposure	Processing setting (indoor/outdoor)	Indoors and outdoors
	Processing temperature	Ambient
	Processing pressure	Ambient
Technical conditions and measures at process level (source) to prevent release	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.	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	Apply technical measures aiming at reduction and cleaning of waste water (WWTP/local STP (e.g. biological treatment))	Efficacy >70%
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 ³ /day
	Degradation efficacy	90% (for ethanol)
	Sludge treatment	Disposal or recovery
Conditions and measures related to treatment of waste	Hazardous waste incineration or dispose for use in recycled fuels	

2. Exposure estimation

Workers exposure estimation is calculated with Ecetoc TRA model v2.. Below given exposure estimates are based on the PROC with the highest exposure levels in this scenario (PROC8a).

Workers exposure	Exposure estimate	DNEL	Comment
Inhalation (mg/m³)	96.04	950	PROC 10 results in the highest exposure in this exposure scenario
Dermal (mg/kg/day)	27.43	343	
Combined (mg/kg/day)	41.15	343	

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 using local STP and MC-1c, IC-9, UC-27 fraction main source 0,1 using local STP). Below values are those related to processes with the highest risk characterization ratio (related to industrial use of coatings, inks and adhesives). All other activities covered in this exposure scenario result in lower environmental exposure estimates.

Ethanol is fully soluble in water, readily biodegradable, not bio-accumulative, does not accumulate in the sediments or soil and is assumed to degrade by 90% in the local and/or municipal STP under evaluated conditions.

Release times per year (day/year)	300	Local release to air (kg/day)	367
Fraction used at main local source	0.1	Local release to waste water (kg/day)	5
Amount used locally (kg/day)	458	Local release to soil (kg/day)	1
Environmental exposure	PEC	PNEC	Comment
In STP / untreated wastewater(mg/l)	0.285	580	-
In local freshwater (mg/l)	0,039	0,96	-
In local soil	0.0091 (mg/kg)	0,63 (mg/kgwwt)	-
In local marine water (mg/l)	0,0039	0,79	-
Total daily intake via local environment (mg/kgdw/d)	Negligible compared to daily dietary intake and endogenous formation.		

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:

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

Example for calculating your local freshwater PEC:

$Corrected\ freshwater\ PEC = 0,039 * (\text{your local emission [kg/day]} / 5) * (2000 / \text{your local WWTP flow rate [m}^3\text{/day]}) * (18000 / \text{your local river flow rate [m}^3\text{/day]}) * ((1 - \text{your local WWTP efficiency})/0.1)$

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.

Title: Exposure Scenario for Industrial use of Ethanol in spray applications

Ethanol REACH Association reference no. ES5

Systematic title based on use descriptor	SU3 PROC7 ERC4
Processes, tasks, activities covered	Covers industrial (end) use of ethanol as such or in preparations by spraying (e.g. as processing aid, cleaning agent, solvent or ingredient in coatings). Indoor painting, application of coatings, adhesives, polishes/cleaners, air-care products and other mixtures containing Ethanol by automated spraying techniques in factories or comparable industrial settings.
Assessment Method	Ecetoc TRA integrated model version 2

1. Exposure Scenario

1.1 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.

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.

1.2 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	5,73 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 and forearms
	Exposed skin surface	1500 cm ²
Other given operational conditions affecting workers exposure	Assumes a good basic standard of occupational hygiene is implemented.	
	Setting (indoor/outdoor)	Indoors
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	Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour) when working indoors. Ensure material transfers are under containment or extract ventilation. Provide good ventilation to points where emissions occur.	
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified.	
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid excessive and frequent skin contact as much as possible. Wear suitable gloves tested to EN374 during the activities where excessive or frequent skin contact is possible. Wear a respirator conforming to EN140 with Type A filter or better if vented booth with laminar flow is not available.	

1.3 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 to the region	2,750 t/year (maximum in worst case)
	Annually total	27,500 t/year total market
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 ³ /day (default)

Other given operational conditions affecting environmental exposure	Processing setting (indoor/outdoor)	Indoors and outdoors
	Processing temperature	Ambient
	Processing pressure	Ambient
Technical conditions and measures at process level (source) to prevent release	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.	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	Apply technical measures aiming at reduction and cleaning of waste water (WWTP/local STP (e.g. biological treatment))	Efficacy >70%
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 ³ /day
	Degradation efficacy	90% (for ethanol)
	Sludge treatment	Disposal or recovery
Conditions and measures related to treatment of waste	Hazardous waste incineration or dispose for use in recycled fuels	

2. Exposure estimation

Workers exposure estimation is calculated with Ecetoc TRA model v2..

Workers exposure	Exposure estimate	DNEL	Comment
Inhalation (mg/m ³)	480.21	950	Exposure estimates and RCRs given here are calculated for conditions without LEV (worst case scenario).
Dermal (mg/kd/day)	42.86	343	
Combined (mg/kg/day)	111.46	343	

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 using local STP). Below values are those related to processes with the highest risk characterization ratio (related to industrial use of coatings, inks and adhesives). All other activities covered in this exposure scenario result in lower environmental exposure estimates.

Ethanol is fully soluble in water, readily biodegradable, not bio-accumulative, does not accumulate in the sediments or soil and is assumed to degrade by >90% in the Local and Municipal STP under evaluated conditions.

Release times per year (day/year)	300	Local release to air (kg/day)	367
Fraction used at main local source	0.1	Local release to waste water (kg/day)	5
Amount used locally (kg/day)	458	Local release to soil (kg/day)	1
Environmental exposure	PEC	PNEC	Comment
In STP / untreated wastewater(mg/l)	0.285	580	-
In local freshwater (mg/l)	0,039	0,96	-
In local soil	0.0091 (mg/kg)	0,63 (mg/kgwwt)	-
In local marine water (mg/l)	0,0039	0,79	-
Total daily intake via local environment (mg/kgdw/d)	Negligible compared to daily dietary intake and endogenous formation.		

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:

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

Example for calculating your local freshwater PEC:

$Corrected\ freshwater\ PEC = 0,039 * (\text{your local emission [kg/day]} / 5) * (2000 / \text{your local WWTP flow rate [m}^3\text{/day]}) * (18000 / \text{your local river flow rate [m}^3\text{/day]}) * ((1 - \text{your local WWTP efficiency})/0.1)$

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.

Title: Exposure Scenario for Industrial use of Ethanol as fuel source		
Ethanol REACH Association reference no. ES6a		
Systematic title based on use descriptor	SU3 PROC16 ERC7	
Processes, tasks, activities covered	Use as fuel or fuel additive in industrial setting.	
Assessment Method	Ecetoc TRA integrated model version 2	
1. Exposure Scenario		
1.1 Operational conditions and risk management measures		
<p>Process category: Covers the use of material as fuel sources (including additives) where limited exposure to the product in its un-burned form is expected. Does not cover exposure as a consequence of spillage or combustion.</p> <p>Environmental release category: Industrial use of substances in closed systems. Use in closed equipment, such as the use of liquids in hydraulic systems, cooling liquids in refrigerators and lubricants in engines and di-electric fluids in electric transformers and oil in heat exchangers. No intended contact between functional fluids and products foreseen, and thus low emissions via waste water and waste air to be expected.</p> <p>Number of sites using the substance: Substance widely used.</p>		
1.2 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	5,73 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	One hand, face side only
	Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	Assumes a good basic standard of occupational hygiene is implemented.	
	Setting (indoor/outdoor)	Indoors
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.	
1.3 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	30,000 t/year (maximum in worst case)
	Annually total	300,000 t/year total market
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 ³ /day (default)
Other given operational conditions affecting environmental exposure	Processing setting (indoor/outdoor)	Indoors and outdoors
	Processing temperature	Ambient
	Processing pressure	Ambient
Technical conditions and measures at process level (source) to prevent release	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.	
Technical onsite conditions and measures	Apply technical measures aiming at reduction	Efficacy >70%

to reduce or limit discharges, air emissions and releases to soil	and cleaning of waste water (WWTP/local STP (e.g. biological treatment))	
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 ³ /day
	Degradation efficacy	90%
	Sludge treatment	Disposal or recovery
Conditions and measures related to treatment of waste	Hazardous waste incineration or dispose for use in recycled fuels	

2. Exposure estimation

Workers exposure estimation is calculated with Ecetoc TRA model v2..

Workers exposure	Exposure estimate	DNEL	Comment
Inhalation (mg/m ³)	9.6	950	-
Dermal (mg/kg/day)	0.3	343	
Combined (mg/kg/day)	1.7	343	

Environmental exposure estimation is based on Ecetoc TRA model v2 including the data from TGD A&B tables (MC-1c, IC-9, UC-27, fraction main source 0,02 using local STP, 350 emission days per year). Ethanol is fully soluble in water, readily biodegradable, not bio-accumulative, does not accumulate in the sediments or soil and is assumed to degrade by 90% in the STP under evaluated conditions.

Release times per year (day/year)	350	Local release to air (kg/day)	9
Fraction used at main local source	0.02	Local release to waste water (kg/day)	1
Amount used locally (kg/day)	1714	Local release to soil (kg/day)	2
Environmental exposure	PEC	PNEC	Comment
In STP / untreated wastewater(mg/l)	0.053	580	-
In local freshwater (mg/l)	0,0152	0,96	-
In local soil	0.0006 (mg/kg)	0,63 (mg/kgwwt)	-
In local marine water (mg/l)	0,0016	0,79	-
Total daily intake via local environment (mg/kgdw/d)	Negligible compared to daily dietary intake and endogenous formation.		

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 algorithm below to estimate the correct local emissions and RCRs:

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

Example for calculating your local freshwater PEC:

$Corrected\ freshwater\ PEC = 0,0152 * (\text{your local emission [kg/day]} / 5) * (2000 / \text{your local WWTP flow rate [m}^3\text{/day]}) * (18000 / \text{your local river flow rate [m}^3\text{/day]}) * ((1 - \text{your local WWTP efficiency})/0.1)$

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.

Title: Exposure Scenario for Professional use of Ethanol as fuel source		
Ethanol REACH Association reference no. ES6b		
Systematic title based on use descriptor	SU22 PROC16 ERC 9a, ERC 9b	
Processes, tasks, activities covered	Use as fuel or fuel additive in professional setting.	
Assessment Method	Ecetoc TRA integrated model version 2	
1. Exposure Scenario		
1.1 Operational conditions and risk management measures		
<p>Process category: Covers the use of material as fuel sources (including additives) where limited exposure to the product in its unburned form is expected. Does not cover exposure as a consequence of spillage or combustion.</p> <p>Environmental release category: Professional use of substances in closed systems. Use in closed equipment, such as the use of liquids in hydraulic systems, cooling liquids in refrigerators and lubricants in engines and dielectric fluids in electric transformers and oil in heat exchangers. No intended contact between functional fluids and products foreseen, and thus low emissions via waste water and waste air to be expected.</p> <p>Number of sites using the substance: Substance widely used.</p>		
1.2 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	5,73 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	One hand, face side only
	Exposed skin surface	240 cm ²
Other given operational conditions affecting workers exposure	Assumes a good basic standard of occupational hygiene is implemented.	
	Setting (indoor/outdoor)	Indoors
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.	
1.3 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	380,000 t/year
	Annually total	3,800,000 t/year total market for industrial, professional and consumer use
Frequency and duration of use	Pattern of release	Continuous wide dispersive: 365 days per year
Environment factors not influenced by risk management	Flow rate of receiving surface water	18,000m ³ /day (default)
Other given operational conditions affecting environmental exposure	Processing setting (indoor/outdoor)	Indoors and outdoors
	Processing temperature	Ambient
	Processing pressure	Ambient

Technical conditions and measures at process level (source) to prevent release	Do not discharge into sewers or drains.	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	Do not discharge directly into environment. Use in predominantly enclosed systems	
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 ³ /day
	Degradation efficacy	90%
	Sludge treatment	Disposal or recovery
Conditions and measures related to treatment of waste	Hazardous waste incineration or dispose for use in recycled fuels	

2. Exposure estimation

Workers exposure estimation is calculated with Ecetoc TRA model v2..

Workers exposure	Exposure estimate	DNEL	Comment
Inhalation (mg/m ³)	9.6	950	-
Dermal (mg/kd/day)	0.3	343	
Combined (mg/kg/day)	1.7	343	

Environmental exposure estimation is based on Ecetoc TRA model ERC9a, and TGD-A&B table (MC-IV, IC-6, UC-27). Below values are those related to TGD A&B table calculation.

Ethanol is fully soluble in water, readily biodegradable, not bio-accumulative, does not accumulate in the sediments or soil and is assumed to degrade by 90% in the STP under evaluated conditions.

Release times per year (day/year)	365	Local release to air (kg/day)	n.a. wide dispersive
Fraction used at main local source	0,002	Local release to sewage (kg/day)	n.a. wide dispersive
Amount used locally (kg/day)	2082	Local release to soil (kg/day)	n.a. wide dispersive
Environmental exposure	PEC	PNEC	Comment
In STP (mg/l)	0,065	580	-
In local freshwater (mg/l)	0,0240	0,96	-
In local soil (mg/kg)	0,0273	0,63 (mg/kgwwt)	-
In local marine water (mg/l)	0,0034	0,79	-
Total daily intake via local environment (mg/kgdw/d)	Negligible compared to daily dietary intake and endogenous formation.		

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 algorithm below to estimate the correct local emissions and RCRs:

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

Example for calculating your local freshwater PEC:

$Corrected\ freshwater\ PEC = 0,0240 * (\text{your local emission [kg/day]} / 5) * (2000 / \text{your local WWTP flow rate [m3/day]}) * (18000 / \text{your local river flow rate [m3/day]}) * ((1 - \text{your local WWTP efficiency})/0.1)$

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.

Title: Exposure Scenario for Professional use of Ethanol in non-spray applications**Ethanol REACH Association reference no. ES7**

Systematic title based on use descriptor	SU22 PROC10, PROC13, PROC14, PROC19 ERC8a, ERC8d
Processes, tasks, activities covered	Covers professional (end) use of ethanol as such or in preparations in non-spray application (e.g. as processing aid, cleaning agent, application of coatings). Indoor roller application, brushing and treatment of surfaces. Treatment of articles by dipping and pouring. Includes stabilization of explosives.
Assessment Method	Ecetoc TRA integrated model version 2

1. Exposure Scenario**1.1 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 dyeing, 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. Use of substances at small-scale laboratory (< 1 l or 1 kg). Addresses also occupations and activities where intimate and intentional contact with substances occurs without any specific exposure controls other than PPE.

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.

1.2 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	5,73 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 (PROC13, 14) Two hands (PROC10) Two hands and forearms (PROC19)
	Exposed skin surface	480 cm ² (PROC13, 14) 960 cm ² (PROC10) 1980 cm ² (PROC19)
Other given operational conditions affecting workers exposure	Assumes a good basic standard of occupational hygiene is implemented.	
	Setting (indoor/outdoor)	Indoors and outdoors
Technical conditions and measures at process level (source) to prevent release	If >4 hours/day (PROC19)	Limit the substance concentration in the product to 25%
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of general or controlled ventilation. Natural ventilation is from windows and doors etc. Controlled ventilation means air is supplied or removed by a powered fan.	
Organisational measures to prevent /limit releases, dispersion and exposure	No specific measures identified.	
Conditions and measures related to personal protection, hygiene and health evaluation	If PROC 19 and concentration >25%	PPE: Wear suitable gloves tested to EN374 and avoid skin contact

1.3 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	10,000 t/year total market
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 ³ /day (default)
Other given operational conditions affecting environmental exposure	Processing setting (indoor/outdoor)	Indoors and outdoors
	Processing temperature	Ambient
	Processing pressure	Ambient
Technical conditions and measures at process level (source) to prevent release	No specific measures identified.	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	No specific 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 m ³ /day
	Degradation efficacy	90% (for ethanol)
	Sludge treatment	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.	

2. Exposure estimation

Workers exposure estimation is calculated with Ecetoc TRA model v2. Below given exposure estimates are based on the PROC with the highest exposure levels in this scenario (PROC19).

Workers exposure	Exposure estimate	DNEL	Comment
Inhalation (mg/m³)	115,25	950	PROC 19 results in the highest exposure in this exposure scenario
Dermal (mg/kg/day)	84,86	343	
Combined (mg/kg/day)	101,32	343	

Environmental exposure estimation is based on Ecetoc TRA model v2 based on ERC 8 a, d and TGD A&B table (MC-1c, IC-6, UC-9). Below values are estimates based on the ERC approach calculation resulting in more conservative values. Ethanol is fully soluble in water, readily biodegradable, not bio-accumulative, does not accumulate in the sediments or soil and is assumed to degrade by 90% in the STP under evaluated conditions.

Release times per year (day/year)	365	Local release to air (kg/day)	5
Fraction used at main local source	0.1	Local release to waste water (kg/day)	5
Amount used locally (kg/day)	5.5	Local release to soil (kg/day)	1
Environmental exposure	PEC	PNEC	Comment
In STP / untreated wastewater(mg/l)	0.34	580	-
In local freshwater (mg/l)	0,045	0,96	-
In local soil	0.0003 (mg/kg)	0,63 (mg/kgwwt)	-
In local marine water (mg/l)	0,0044	0,79	-
Total daily intake via local environment (mg/kgdw/d)	Negligible compared to daily dietary intake and endogenous formation.		

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 algorithm below 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)

Example for calculating your local freshwater PEC:

Orrected local freshwater PEC = 0,045 * (your local emission [kg/day] / 5) * (2000 / your local WWTP flow rate [m³/day]) * (18000 / your local river flow rate [m³/day]) * ((1 - your 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.

Title: Exposure Scenario for Professional use of Ethanol in spray applications

Ethanol REACH Association reference no. ES8

Systematic title based on use descriptor	SU22 PROC11 ERC8a, ERC8d
Processes, tasks, activities covered	Professional application of paints, coatings, adhesives, cleaners and other mixtures containing ethanol by spraying. Non industrial / professional spraying of mixtures and products like paints, coatings, adhesives, polishes, cleaners, etc.
Assessment Method	Ecetoc TRA integrated model version 2

1. Exposure Scenario

1.1 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 and outdoor 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.

1.2 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	5,73 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	Variable
Human factors not influenced by risk management	Potentially exposed body parts	Two hands and forearms
	Potentially exposed skin surface	1500 cm ²
Other given operational conditions affecting workers exposure	Assumes a good basic standard of occupational hygiene is implemented.	
	Setting (indoor/outdoor)	Indoors and/or outdoors
Technical conditions and measures at process level (source) to prevent release	If duration of exposure > 4 hours/day	Limit the substance content in the product to 5%
	If duration of exposure 1-4 hours/day	Limit the substance content in the product to 25%
	If duration of exposure < 1 hours/day	No specific measures identified
Technical conditions and measures to control dispersion from source towards the worker	Substance content in the product > 25%	Provide enhanced general ventilation by mechanical means. Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour)
	Substance content in the product 5 - 25%	Provide a good standard of general ventilation. Natural ventilation is from windows and doors etc. Controlled ventilation means air is supplied or removed by a powered fan.
	Substance content in the product < 5%	No specific measures identified.
Organisational measures to prevent /limit releases, dispersion and exposure	Do not carry out operation for more than 1 hour when substance content in the product exceeds 25% and no enhanced mechanical ventilation (minimum efficiency 70%) is available.	
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 enhanced ventilation available and concentration of the substance in the product > 25 %

	PPE: Wear suitable gloves (chemically resistant gloves tested to EN374) during the activities where excessive skin contact is possible.	Condition: If concentration of the substance in the product > 5 %
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1.3 Control of environmental exposure

Product characteristics	Physical state	Liquid (sprayed)
	Concentration of substance in product	5 - 25 %
Amounts used	Daily at point source	n.a.
	Annually at point source	n.a. (wide dispersive use)
	Annually total	10,000 t/year total market
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 ³ /day (default)
Other given operational conditions affecting environmental exposure	Processing setting (indoor/outdoor)	Indoors and outdoors
	Processing temperature	Ambient
	Processing pressure	Ambient
Technical conditions and measures at process level (source) to prevent release	No specific measures identified.	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	No specific 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 m ³ /day
	Degradation efficacy	90%
	Sludge treatment	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.	

2. Exposure estimation

Workers exposure estimation is calculated with Ecetoc TRA model v2. Below given exposure estimates are based on the PROC with the highest exposure levels in this scenario (PROC19).

Workers exposure	Exposure estimate	DNEL	Comment
Inhalation (mg/m ³)	672,29	950	-
Dermal (mg/kd/day)	21,43	343	
Combined (mg/kg/day)	117,47	343	

Environmental exposure estimation is based on Ecetoc TRA model v2 based on ERC8a default settings and TGD A&B table (MC-1c, IC-6, UC-9). Below values are estimates based on the ERC approach calculation resulting in more conservative values. Ethanol is fully soluble in water, readily biodegradable, not bio-accumulative, does not accumulate in the sediments or soil and is assumed to degrade by 90% in the STP under evaluated conditions.

Release times per year (day/year)	365	Local release to air (kg/day)	n.a. wide dispersive
Fraction used at main local source	0.1	Local release to waste water (kg/day)	n.a. wide dispersive
Amount used locally (kg/day)	5.5	Local release to soil (kg/day)	n.a. wide dispersive
Environmental exposure	PEC	PNEC	Comment
In STP / untreated wastewater(mg/l)	0.34	580	-
In local freshwater (mg/l)	0,045	0,96	-
In local soil	0.0003 (mg/kg)	0,63 (mg/kgwwt)	-
In local marine water (mg/l)	0,0044	0,79	-
Total daily intake via local environment (mg/kgdw/d)	Negligible compared to daily dietary intake and endogenous formation.		

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 algorithm below to estimate the correct local emissions and RCRs:

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

Example for calculating your local freshwater PEC:

$Corrected\ local\ freshwater\ PEC = 0,045 * (\text{your local emission [kg/day]} / 5) * (2000 / \text{your local WWTP flow rate [m3/day]}) * (18000 / \text{your local river flow rate [m3/day]}) * ((1 - \text{your local WWTP efficiency})/0.1)$

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

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

REACH		
Title: Exposure Scenario for Consumer use of Ethanol as automotive fuel		
Ethanol REACH Association reference no. ES9a		
Systematic title based on use descriptor	SU21 PC13 ERC9a, ERC9b	
Processes, tasks, activities covered	Covers the consumer use of automotive fuels which contain Ethanol	
Assessment Method	Ecetoc TRA integrated model version 2, ConsExpo v 4.1	
1. Exposure Scenario		
1.1 Operational conditions and risk management measures		
<p>Product categories: Use of ethanol as automotive (vehicle) fuel. Minor exposure to ethanol vapours is possible during filling at the filling stations or transfer from portable fuel cans. Exposure to ethanol during the actual use of fuel (running of the engine) is not expected under normally foreseeable conditions of use since the substance is combusted in the (enclosed) engine system.</p> <p>Environmental release category: Wide dispersive outdoor use by the public. Use (usually) results in minor direct release into environment through accidental spillage and evaporation during the filling.</p> <p>Number of sites using the substance: Substance widely used.</p>		
1.2 Control of consumer exposure		
Substance content in the product	Can be > 25 %	
Amounts of product used / applied per event	Up to 100 litre	
Exposure/release fraction	0,001 (Only to vapour and minor spills during the filling of the tank)	
Frequency and duration of use/exposure	Frequency of exposure: weekly	
	Duration of exposure per event: < 5 minutes (only during the filling of the tank)	
Setting and external conditions during use	Outdoors	
Technical (product related) use conditions	No specific measures required.	
Organisational consumer protection measures (e.g. recommendation and/or use instruction information for consumer; e.g. product labelling)	No specific measures required.	
1.3 Control of environmental exposure		
Product characteristics	Physical state	Liquid
	Concentration of substance in product	Can be > 25 %
Amounts used	Daily at point source	n.a.
	Annually at point source	n.a. (wide dispersive use)
	Annually total	3,800,000 t/year total market for industrial, professional and consumer use
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	18,000m3/day (default)
Other given operational conditions affecting environmental exposure	Processing setting (indoor/outdoor)	Outdoor
	Processing temperature	Ambient
	Processing pressure	Ambient
Conditions and measures related to municipal sewage treatment plant	No release into the wastewaters or sewage is expected from this use. Only environmental release from the consumer use of ethanol as fuel is evaporation during filling (<0,01 %, assuming that less than 10 gram of ethanol evaporates during the filling of 75 litre tank during 2-5 minutes).	
Conditions and measures related to disposal of waste resulting from the use of the products	No waste expected from this use.	
Conditions and measures related to recovery of waste resulting from the use	n.a.	

2. Exposure estimation

Consumer exposure estimation provided below is only indicative for one particular PC. The estimates are calculated with the industry model (draft version MasterCSA_8April2010) CSA (PC13, Automotive, refuelling at 100% concentration).

Consumer exposure	Exposure estimate	DNEL	Comment
Dermal (mg/kg/day)	35,00	LTS 206	-
Oral (mg/kg/day)	0,00	LTS 87	-
Inhalation (mg/m3 for 24hr day)	1,54	LTS 144	-
All routes systemic	-	-	-

Environmental exposure estimation is based on Ecetoc TRA model v2 based on ERC8d customized settings and total use of 3,800,000 tpa.

Release times per year (day/year)	365	Local release to air (kg/day)	n.a. wide dispersive
Fraction used at main local source	0.002	Local release to waste water (kg/day)	n.a. wide dispersive
Amount used locally (kg/day)	n.a	Local release to soil (kg/day)	n.a. wide dispersive

Environmental exposure	PEC	PNEC	Comment
In STP (mg/l)	0,065	580	-
In local freshwater (mg/l)	0,0240	0,96	-
In local soil (mg/kg)	0,0273	0,63 (mg/kgwwt)	-
In local marine water (mg/l)	0,0034	0,79	-
Total daily intake via local environment (mg/kgdw/d)	Negligible compared to daily dietary intake and endogenous formation.		

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.

Title: Exposure Scenario for Consumer use of Ethanol as domestic fuel

Ethanol REACH Association reference no. ES9b

Systematic title based on use descriptor	SU21 PC13 ERC8a, ERC8d
Processes, tasks, activities covered	Covers the consumer use of domestic fuel products which contain Ethanol, e.g. ethanol fuel burners, fondue sets, heaters, etc. Includes garden equipment refuelling.
Assessment Method	Ecetoc TRA integrated model version 2, ConsExpo v 4.1

1. Exposure Scenario

1.1 Operational conditions and risk management measures

Product categories: Fuels (for domestic use) like ethanol liquid/gel filling for fireplaces, fondue sets, heaters, etc. During use, minor exposure is possible during the transfer of the liquid product from the can/packaging into the holder or (burning-) device. No exposure to ethanol is expected during the actual burning of the fuel since the ethanol vapours are fully combusted.

Environmental release category: Wide dispersive indoor and outdoor use by public at large. Use (usually) results in direct release into the sewage system or environment. In this use, as domestic fuel, only expected environmental release is through evaporation during filling of the device.

Number of sites using the substance: Substance widely used.

1.2 Control of consumer exposure

Substance content in the product	> 25 %
Amounts of product used / applied per event	Up to 1 litre
Potentially exposed body parts	Inside one hand: 210 cm ²
Frequency and duration of use/exposure	Frequency of use: weekly
	Duration of use: 5 minutes (Only during the filling of the device)
Setting and external conditions during use	Indoors and/or outdoors
Technical (product related) use conditions	No specific measures required.
Organisational consumer protection measures (e.g. recommendation and/or use instruction information for consumer)	No specific measures required.

1.3 Control of environmental exposure

Product characteristics	Physical state	Liquid
	Concentration of substance in product	Can be > 25 %
Amounts used	Daily at point source	n.a.
	Annually at point source	n.a. (wide dispersive use)
	Annually total	10,000 t/year total market
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 ³ /day (default)
Other given operational conditions affecting environmental exposure	Processing setting (indoor/outdoor)	Indoor and/or outdoor
	Processing temperature	Ambient
	Processing pressure	Ambient
Conditions and measures related to municipal sewage treatment plant	No release into the wastewaters or sewage is expected from this use. Only environmental release from the consumer use of ethanol as domestic fuel is evaporation during filling of the burner device.	
Conditions and measures related to disposal of waste resulting from the use of the products	No waste expected from this use.	
Conditions and measures related to recovery of waste resulting from the use	n.a.	

2. Exposure estimation

Consumer exposure estimation provided below is only indicative for one particular PC. The estimates are calculated with the industry model (draft version MasterCSA_8April2010) CSA (PC13, Garden equipment-liquid-refuelling at concentration 100%).			
Consumer exposure	Exposure estimate	DNEL	Comment
Dermal (mg/kg/day)	70,00	LTS 206	-
Oral (mg/kg/day)	0,00	LTS 87	-
Inhalation (mg/m3 for 24hr day)	0,81	LTS 144	-
All routes systemic	-	-	-
Environmental exposure estimation is based on Ecetoc TRA model v2 based on ERC8a and d settings and total use of 10.000 tpa. Ethanol is fully soluble in water, readily biodegradable, not bio-accumulative, does not accumulate in the sediments or soil and is assumed to degrade by >90% in the STP under evaluated conditions.			
Release times per year (day/year)	365	Local release to air (kg/day)	n.a. wide dispersive
Fraction used at main local source	0,002	Local release to waste water (kg/day)	n.a. wide dispersive
Amount used locally (kg/day)	n.a.	Local release to soil (kg/day)	n.a. wide dispersive
Environmental exposure	PEC	PNEC	Comment
In STP (mg/l)	0,340	580	-
In local freshwater (mg/l)	0,0447	0,96	-
In local soil (mg/kg)	0,0003	0,63 (mg/kgwwt)	-
In local marine water (mg/l)	0,0044	0,79	-
Total daily intake via local environment (mg/kgdw/d)	Negligible compared to daily dietary intake and endogenous formation.		
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.	

Title: Exposure Scenario for Consumer use of Ethanol in products (<50g per event)				
Ethanol REACH Association reference no. ES9c				
Systematic title based on use descriptor	SU21 PC: 1, 3, 8, 12, 14, 15, 18, 23, 24, 27, 28, 30, 31, 34, 39 ERC8a, ERC8d			
Processes, tasks, activities covered	Covers the consumer use of products which contain Ethanol with amount applied in use of less than 50g per event			
Assessment Method	Ecetoc TRA integrated model version 2, ConsExpo v 4.1			
1. Exposure Scenario				
1.1 Operational conditions and risk management measures				
Product categories: Adhesives (other than carpet and floor glue), sealants; Air care products; Artists supply and hobby preparations; Building and construction preparations; Metal-surface treatment products; Non-metal-surface treatment products; Ink and toners; Lawn and garden preparations; Leather tanning, finishing, impregnation, dye and care products; Lubricants, greases and release products; Plant protection products; Cosmetics and toiletries; Perfumes and fragrances; Photo-chemicals; Polishes and wax blends; Textile dye, finishing and impregnation products.				
Environmental release category: Wide dispersive indoor and outdoor use. Use (usually) results in direct release into the sewage system or environment.				
Number of sites using the substance: Substance widely used.				
1.2 Control of consumer exposure				
Substance content in the product	< 1 %	1 – 5 %	5 – 25 %	> 25 %
Product characteristic (including package design affecting exposure)	PC24, PC31	PC5, PC10, PC22, PC23, PC27, PC30, PC34	PC1, PC8, PC14, PC15, PC18,	PC3, PC28
Amounts of product used / applied per event	< 50 g	< 50 g	< 50 g	< 10 g
Frequency and duration of use/exposure	Frequency of use: Up to daily			
	Duration of use/application: up to 4 hours			
Setting and external conditions during use	Indoors (minimum room volume 20m ³) or outdoors			
Technical (product related) use conditions	n.a.	n.a.	n.a.	Controlled spray or release device.
Organisational consumer protection measures (e.g. recommendation and/or use instruction information for consumer; e.g. product labelling)	No specific measures required.	No specific measures required.	No specific measures required.	Do not spray empty in small, enclosed areas. Avoid inhalation and skin contact.
1.3 Control of environmental exposure				
Product characteristics	Physical state		Liquid	
	Concentration of substance in product		Could be > 25 %	
Amounts used	Daily at point source		n.a.	
	Annually at point source		n.a. (wide dispersive use)	
	Annually total		10,000 t/year total market, excluding cosmetics and toiletries	
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 ³ /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 ³ /day	
	Degradation efficacy		90%	
	Sludge treatment (disposal or recovery)		Disposal or recovery	

Conditions and measures related to disposal of waste resulting from the use of the products	No specific measures required.
Conditions and measures related to recovery of waste resulting from the use	No specific measures required.

2. Exposure estimation

Consumer exposure estimation provided below is only indicative for one particular PC. The estimates are calculated with the industry model (draft version MasterCSA_8April2010) CSA (PC31 Polishes and wax blends for floor, furniture, shoes).

Consumer exposure	Exposure estimate	DNEL	Comment
Dermal (mg/kg/day)	2,87	LTS 206	-
Oral (mg/kg/day)	0,00	LTS 87	-
Inhalation (mg/m3 for 24hr day)	10,31	LTS 144	-
All routes systemic	-	-	-

Environmental exposure estimation is based on Ecetoc TRA model v2 based on ERC8a and ERC8d default settings. Below presented estimates are based on ERC8d with total use of 10,000 tpa. This volume excludes cosmetics and toiletries use, where a 200,000 tpa total market is assumed – all emissions from this sector are assumed to be emissions to air. Ethanol is fully soluble in water, readily biodegradable, not bio-accumulative, does not accumulate in the sediments or soil and is assumed to be degraded for >90% in the STP under evaluated conditions.

Release times per year (day/year)	365	Local release to air (kg/day)	n.a. wide dispersive
Fraction used at main local source	0,002	Local release to waste water (kg/day)	n.a. wide dispersive
Amount used locally (kg/day)	n.a.	Local release to soil (kg/day)	n.a. wide dispersive

Environmental exposure	PEC	PNEC	Comment
In STP (mg/l)	0,340	580	-
In local freshwater (mg/l)	0,0447	0,96	-
In local soil (mg/kg)	0,0003	0,63 (mg/kgwwt)	-
In local marine water (mg/l)	0,0044	0,79	-
Total daily intake via local environment (mg/kgdw/d)	Negligible compared to daily dietary intake and endogenous formation.		

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.

Title: Exposure Scenario for Consumer use of Ethanol in enclosed systems		
Ethanol REACH Association reference no. ES9d		
Systematic title based on use descriptor	SU21 PC16 (Heat transfer fluids), PC17 (Hydraulic fluids) ERC9a, ERC9b	
Processes, tasks, activities covered	Covers the consumer use of products which contain Ethanol - products in enclosed systems (with no expected exposure to ethanol during use)	
Assessment Method	Ecetoc TRA integrated model version 2, ConsExpo v 4.1	
1. Exposure Scenario		
1.1 Operational conditions and risk management measures		
Product categories: Heat transfer fluids; Hydraulic fluids and other products where ethanol is part of the enclosed system and no exposure of consumers during the use of the product is expected under normal and reasonably foreseeable conditions of use.		
Environmental release category: Indoor and outdoor use of substances by the public at large in closed systems. Use in closed equipment, such as the use of cooling liquids in refrigerators, oil-based electric heaters, hydraulic liquids in automotive suspension, lubricants in motor oil and brake fluids in automotive brake systems.		
Number of sites using the substance: Substance widely used.		
1.2 Control of consumer exposure		
Substance content in the product	> 25 %	
Product characteristic (including package design affecting exposure)	Substance is enclosed in the system and there is no consumer exposure possible under normal and reasonably foreseeable conditions of use.	
Amounts of product used / applied per event	n.a. substance in enclosed system	
Frequency and duration of use/exposure	Frequency of use: 1-5 times per year	
	Duration per use: divers	
Setting and external conditions during use	n.a. substance in enclosed system	
Technical (product related) use conditions	n.a. substance in enclosed system	
Organisational consumer protection measures (e.g. recommendation and/or use instruction information for consumer; e.g. product labelling)	Do not open, break or dismantle the container during use. Do not open, break or dismantle the container before disposal. Dispose off as chemical waste.	
1.3 Control of environmental exposure		
Product characteristics	Physical state	Liquid
	Concentration of substance in product	Can be > 25 %
Amounts used	Daily at point source	n.a.
	Annually at point source	n.a. (wide dispersive use in closed systems)
	Annually total	10,000 t/year total market
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	18,000m3/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	No release into the wastewaters or sewage is expected from this use. Substance is used in enclosed system during its service life.	
Conditions and measures related to disposal of waste resulting from the use of the products	No waste expected from this use.	
Conditions and measures related to recovery of waste resulting from the use	n.a.	
2. Exposure estimation		
Consumer exposure estimation provided below is only indicative for one particular PC. The estimates are calculated with the industry model		

(draft version MasterCSA_8April2010) CSA (Heat transfer fluid category).			
Consumer exposure	Exposure estimate	DNEL	Comment
Dermal (mg/kg/day)	0,85	LTS 206	-
Oral (mg/kg/day)	0,00	LTS 87	-
Inhalation (mg/m ³ for 24hr day)	0,04	LTS 144	-
All routes systemic	-	-	-
Environmental exposure estimation is based on Ecetoc TRA model v2 based on ERC9a and b default settings and total use of 10.000 tpa. Ethanol is fully soluble in water, readily biodegradable, not bio-accumulative, does not accumulate in the sediments or soil and is assumed to degrade by >90% in the STP under evaluated conditions.			
Release times per year (day/year)	365	Local release to air (kg/day)	n.a. wide dispersive
Fraction used at main local source	0,002	Local release to waste water (kg/day)	n.a. wide dispersive
Amount used locally (kg/day)	n.a.	Local release to soil (kg/day)	n.a. wide dispersive
Environmental exposure	PEC	PNEC	Comment
In STP (mg/l)	0,017	580	-
In local freshwater (mg/l)	0,0155	0,96	-
In local soil (mg/kg)	0,00013	0,63 (mg/kgwwt)	-
In local marine water (mg/l)	0,00145	0,79	-
Total daily intake via local environment (mg/kgdw/d)	Negligible compared to daily dietary intake and endogenous formation.		
Additional good practice advice beyond the REACH CSA			
<p>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</p>		<p>Use specific measures expected to reduce the predicted exposure beyond the level estimated based on the exposure scenario when possible.</p>	

Title: Exposure Scenario for Consumer use of Ethanol in coatings and paints

Ethanol REACH Association reference no. ES9e

Systematic title based on use descriptor	SU21 PC9a, PC9c ERC8a, ERC8d
Processes, tasks, activities covered	Covers the consumer use of coatings and paint products which contain Ethanol
Assessment Method	Ecetoc TRA integrated model version 2, ConsExpo v 4.1

1. Exposure Scenario

1.1 Operational conditions and risk management measures

Product categories: Coatings, paints, thinners and paint removers. Exposure to ethanol is possible during mixing, pouring and application (roller, brushing and spraying) of the products.
Environmental release category: Wide dispersive indoor and outdoor use of processing aids by the public at large. Use (usually) results in direct release into the sewage system or into environment.

Number of sites using the substance: Substance widely used.

1.2 Control of consumer exposure

Substance content in the product	1 – 15 %
Amounts of product used / applied per event	50 – 250 gram
Exposed skin area	428 cm ² (Inside hands or one hand)
Frequency and duration of use/exposure	Frequency of exposure: 1 – 5 times per year
	Duration of exposure: 20 – 60 minutes
Setting and external conditions during use	Indoors (room volume minimum 20 m ³) Outdoors
Technical (product related) use conditions	Limit the ethanol content in the product to 15%.
Organisational consumer protection measures (e.g. recommendation and/or use instruction information for consumer; e.g. product labelling)	Do not use in small, closed and not ventilated areas. Keep the doors and windows open during use indoors.

1.3 Control of environmental exposure

Product characteristics	Physical state	Liquid
	Concentration of substance in product	1 - 15 %
Amounts used	Daily at point source	n.a.
	Annually at point source	n.a. (wide dispersive use)
	Annually total	10,000 t/year total market
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 ³ /day (default)
Other given operational conditions affecting environmental exposure	Processing setting (indoor/outdoor)	Indoor and/or outdoor
	Processing temperature	Ambient
	Processing pressure	Ambient
Conditions and measures related to municipal sewage treatment plant	Size of STP	> 2000 m ³ /day
	Degradation efficacy	90%
	Sludge treatment (disposal or recovery)	Disposal or recovery
Conditions and measures related to disposal of waste resulting from the use of the products	No specific measures required.	

2. Exposure estimation

Consumer exposure estimation provided below is only indicative for one particular PC. The estimates are calculated with the industry model (draft version MasterCSA_8April2010) CSA (category waterborne latex wall paint at 15% concentration).

Consumer exposure	Exposure estimate	DNEL	Comment
Dermal (mg/kg/day) (on day of application)	21.44	n/a	-
Dermal (mg/kg/day) (chronic)	0.30	LTS 206	-

Oral (mg/kg/day)	0,00	LTS 87	-
Inhalation (mg/m3 , mean event)	~375	950	-
Inhalation (mg/m3, chronic)	0.50	LTS 144	-
All routes systemic	-	-	-
Environmental exposure estimation is based on Ecetoc TRA model v2 based on ERC8a and d settings and total use of 10.000 tpa. Below presented estimates are based on ERC8d with total use of 10,000 tpa. Ethanol is fully soluble in water, readily biodegradable, not bio-accumulative, does not accumulate in the sediments or soil and is assumed to be degraded for >90% in the STP under evaluated conditions.			
Release times per year (day/year)	365	Local release to air (kg/day)	n.a. wide dispersive
Fraction used at main local source	0,002	Local release to waste water (kg/day)	n.a. wide dispersive
Amount used locally (kg/day)	n.a.	Local release to soil (kg/day)	n.a. wide dispersive
Environmental exposure	PEC	PNEC	Comment
In STP (mg/l)	0,340	580	-
In local freshwater (mg/l)	0,0447	0,96	-
In local soil (mg/kg)	0,0003	0,63 (mg/kgwwt)	-
In local marine water (mg/l)	0,0044	0,79	-
Total daily intake via local environment (mg/kgdw/d)	Negligible compared to daily dietary intake and endogenous formation.		
Additional good practice advice beyond the REACH CSA			
<p>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</p>		<p>Use specific measures expected to reduce the predicted exposure beyond the level estimated based on the exposure scenario when possible.</p>	

Title: Exposure Scenario for Consumer use of Ethanol in antifreeze, deicing and screenwash products		
Ethanol REACH Association reference no. ES9f		
Systematic title based on use descriptor	SU21 PC4 ERC8d	
Processes, tasks, activities covered	Covers the consumer use of antifreeze, deicing and screenwash products which contain Ethanol	
Assessment Method	Ecetoc TRA integrated model version 2, ConsExpo v 4.1	
1. Exposure Scenario		
1.1 Operational conditions and risk management measures		
Product categories: Anti-freeze, de-icing and screen-wash consumer products. The exposure is possible during the activities related to transfer from the packaging, mixing and application of the product.		
Environmental release category: Wide dispersive indoor and outdoor use of processing aids by the public at large. Use (usually) results in direct release into the sewage system or into environment.		
Number of sites using the substance: Substance widely used.		
1.2 Control of consumer exposure		
Substance content in the product	> 25 %	
Amounts of product used / applied per event	1 – 50 gram	
Exposed skin area	214 cm ²	
Frequency and duration of use/exposure	Frequency of use: weekly (up to 50 days per year)	
	Duration of exposure per event: < 5 minutes	
Setting and external conditions during use	Indoors and / or outdoors	
Technical (product related) use conditions	Controlled spray or dosing delivery device.	
Organisational consumer protection measures (e.g. recommendation and/or use instruction information for consumer)	No specific measures required.	
1.3 Control of environmental exposure		
Product characteristics	Physical state	Liquid
	Concentration of substance in product	Can be > 25 %
Amounts used	Daily at point source	n.a.
	Annually at point source	n.a. (wide dispersive use)
	Annually total	125,000 t/year total market
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 ³ /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 ³ /day
	Degradation efficacy	90%
	Sludge treatment (disposal or recovery)	Disposal or recovery
Conditions and measures related to disposal of waste resulting from the use of the products	No specific measures required.	
2. Exposure estimation		
Consumer exposure estimation provided below is only indicative for one particular PC. The estimates are calculated with the industry model (draft version MasterCSA_8April2010)) CSA (PC24 Lock- de-icer with conc 50%).		
Consumer exposure	Exposure estimate	DNEL
		Comment

Dermal (mg/kg/day)	17,87	LTS 206	Based on one use a day of 0.25hr / event
Oral (mg/kg/day)	0,00	LTS 87	
Inhalation (mg/m3 for 24hr day)	0,51	LTS 144	
All routes systemic	-	-	
Environmental exposure estimation is based on Ecetoc TRA model v2 based on ERC8d and TGD A&B table (MC-IV, IC-6, UC-5) settings. Ethanol is fully soluble in water, readily biodegradable, not bio-accumulative, does not accumulate in the sediments or soil and is assumed to degrade by >90% in the STP under evaluated conditions.			
Release times per year (day/year)	365	Local release to air (kg/day)	n.a. wide dispersive
Fraction used at main local source	0,002	Local release to waste water (kg/day)	n.a. wide dispersive
Amount used locally (kg/day)	n.a.	Local release to soil (kg/day)	n.a. wide dispersive
Environmental exposure	PEC	PNEC	Comment
In STP (mg/l)	0,0011	580	-
In local freshwater (mg/l)	0,014	0,96	-
In local soil (mg/kg)	0,00013	0,63 (mg/kgwwt)	-
In local marine water (mg/l)	0,0013	0,79	-
Total daily intake via local environment (mg/kgdw/d)	Negligible compared to daily dietary intake and endogenous formation.		
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.	

Title: Exposure Scenario for Consumer use of Ethanol in washing and cleaning products**Ethanol REACH Association reference no. ES9g**

Systematic title based on use descriptor	SU21 PC35 ERC8a, ERC8d
Processes, tasks, activities covered	Covers the consumer use of washing and cleaning products which contain Ethanol
Assessment Method	Ecetoc TRA integrated model version 2, ConsExpo v 4.1

1. Exposure Scenario**1.1 Operational conditions and risk management measures**

Product categories: Washing and cleaning products including for example, toilet/bathroom cleaners, dishwashing liquid, laundry detergent etc. The exposure is possible during the activities related to transfer from the packaging, mixing and application of the product.

Environmental release category: Wide dispersive indoor and outdoor use of processing aids by the public at large. Use (usually) results in direct release into the sewage system or into environment.

Number of sites using the substance: Substance widely used.

1.2 Control of consumer exposure

Substance content in the product	< 5%	5 – 25 %
Product characteristic (including package design affecting exposure)	Laundry liquid detergents and softeners All purpose cleaners Floor and carpet cleaners	All purpose toilet and bathroom cleaners Glass cleaners Special surfaces cleaners Dish washing liquids
Amounts of product used / applied per event	< 250 gram per event	< 250 gram per event
Frequency and duration of use/exposure	Frequency: daily use	Frequency: daily use
	Duration of exposure: 15 minutes – 1 hour	Duration of exposure: 15 minutes – 1 hour
Setting and external conditions during use	Indoors or outdoors	Indoors or outdoors
Technical (product related) use conditions	When spray application: Controlled spray or delivery device.	When spray application: Controlled spray or delivery device.
Organisational consumer protection measures (e.g. recommendation and/or use instruction information for consumer)	No specific measures required.	Do not spray empty in small, enclosed areas.

1.3 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	40,000 t/year total market
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 ³ /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 ³ /day
	Degradation efficacy	90%
	Sludge treatment (disposal or recovery)	Disposal or recovery
Conditions and measures related to disposal of waste resulting from the use of the products	No specific measures required.	

2. Exposure estimation

Consumer exposure estimation provided below is only indicative for one particular PC. The estimates are calculated with the industry model (draft version MasterCSA_8April2010) CSA (for category all-purpose liquid cleaners with concentration of the substance at 15%)			
Consumer exposure	Exposure estimate	DNEL	Comment
Dermal (mg/kg/day)	10,7	LTS 206	Daily use
Oral (mg/kg/day)	0,00	LTS 87	
Inhalation (mg/m3 for 24hr day)	1,73	LTS 144	
All routes systemic	-	-	
Environmental exposure estimation is based on Ecetoc TRA model v2 based on ERC8a and total volume of 40.000 tpa. Ethanol is fully soluble in water, readily biodegradable, not bio-accumulative, does not accumulate in the sediments or soil and is assumed to degrade by >90% in the STP under evaluated conditions.			
Release times per year (day/year)	365	Local release to air (kg/day)	n.a. wide dispersive
Fraction used at main local source	0,002	Local release to waste water (kg/day)	n.a. wide dispersive
Amount used locally (kg/day)	n.a.	Local release to soil (kg/day)	n.a. wide dispersive
Environmental exposure	PEC	PNEC	Comment
In STP (mg/l)	0,681	580	-
In local freshwater (mg/l)	0,0818	0,96	-
In local soil (mg/kg)	0,000451	0,63 (mg/kgwwt)	-
In local marine water (mg/l)	0,00808	0,79	-
Total daily intake via local environment (mg/kgdw/d)	Negligible compared to daily dietary intake and endogenous formation.		
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.	

Title: Exposure Scenario for Industrial and Professional use of Ethanol as laboratory agent

Ethanol REACH Association reference no. ES10

Systematic title based on use descriptor	SU3, SU22 PROC15 ERC2, ERC4, ERC8a
Processes, tasks, activities covered	Use as small scale laboratory reagent
Assessment Method	Ecetoc TRA integrated model version 2

1. Exposure Scenario

1.1 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.
 Number of sites using the substance: Substance widely used.

1.2 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	5,73 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	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 ²
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.	

1.3 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	500 t/year
	Annually total	5,000 t/year total market
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 ³ /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 m ³ /day
	Degradation efficacy	90%
	Sludge treatment	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.	

2. Exposure estimation

Workers exposure estimation is calculated with Ecetoc TRA model v2..

Workers exposure	Exposure estimate	DNEL	Comment
Inhalation (mg/m ³)	19,21	950	-
Dermal (mg/kd/day)	0,34	343	
Combined (mg/kg/day)	3,09	343	

Environmental exposure estimation is based on Ecetoc TRA model v2 based on ERC 8a for professional use and TGD A&B table (MC-Ic, IC-15, UC-48) 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. Ethanol is fully soluble in water, readily biodegradable, not bio-accumulative, does not accumulate in the sediments or soil and is assumed to degrade by 90% in the STP under evaluated conditions.

Release times per year (day/year)	365	Local release to air (kg/day)	3
Fraction used at main local source	0,1	Local release to sewage (kg/day)	3
Amount used locally (kg/day)	2,47	Local release to soil (kg/day)	1
Environmental exposure	PEC	PNEC	Comment
In STP (mg/l)	0,170	580	-
In local freshwater (mg/l)	0,027	0,96	-
In local soil (mg/kg)	0,0002	0,63 (mg/kgwwt)	-
In local marine water (mg/l)	0,0027	0,79	-
Total daily intake via local environment (mg/kgdw/d)	Negligible compared to daily dietary intake and endogenous formation.		

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 algorithm below to estimate the correct local emissions and RCRs:

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

Example for calculating your local freshwater PEC:

$Corrected \text{ local freshwater PEC} = 0,027 * (\text{your local emission [kg/day]} / 3) * (2000 / \text{your local WWTP flow rate [m3/day]}) * (18000 / \text{your local river flow rate [m3/day]}) * ((1 - \text{your local WWTP efficiency})/0.1)$

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.

Title: Exposure Scenario for Industrial and Professional use of Ethanol as heat transfer fluid, or other functional fluid

Ethanol REACH Association reference no. ES11

Systematic title based on use descriptor	SU3, SU22 PROC20 ERC7, ERC9a, ERC9b
Processes, tasks, activities covered	Covers use in heat and pressure transfer fluids in dispersive, professional use but closed systems
Assessment Method	Ecetoc TRA integrated model version 2

1. Exposure Scenario

1.1 Operational conditions and risk management measures

Process category: Heat and pressure transfer fluids in dispersive, professional use but closed systems.
 Environmental release categories: Industrial use of substances in closed systems. Use in closed equipment, such as the use of liquids in hydraulic systems, cooling liquids in refrigerators and lubricants in engines and dielectric fluids in electric transformers and oil in heat exchangers. No intended contact with the product produced. Indoor use of substances by the public at large or professional (small scale) use in closed systems. Use in closed equipment, such as the use of cooling liquids in refrigerators, oil-based electric heaters.

Number of sites using the substance: Substance widely used.

1.2 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	5,73 kPa
Amounts used	n.a. in tier1 TRA model	
Frequency and duration of use/exposure	Frequency of exposure (weekly)	n.a.
	Frequency of exposure (annual)	n.a.
	Duration of exposure	n.a.
Human factors not influenced by risk management	Potentially exposed body parts	Two hands, face side only
	Exposed skin surface	480 cm ²
Other given operational conditions affecting workers exposure	Assumes a good basic standard of occupational hygiene is implemented.	
	Setting (indoor/outdoor)	Indoor and outdoor
Technical conditions and measures at process level (source) to prevent release	Handle substance within a closed system.	
Technical conditions and measures to control dispersion from source towards the worker	Store substance within a closed system.	
Organisational measures to prevent /limit releases, dispersion and exposure	Substance in a closed system. No intended exposure to the substance.	
Conditions and measures related to personal protection, hygiene and health evaluation	No specific measures identified.	

1.3 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	1000 t/year
	Annually total	10,000 t/year total market
Frequency and duration of use	Pattern of release	No release into environment (closed system)
Environment factors not influenced by risk management	Flow rate of receiving surface water	n.a.
Other given operational conditions affecting environmental exposure	Processing setting (indoor/outdoor)	Indoors and outdoors
	Processing temperature	Ambient
	Processing pressure	Ambient
Technical conditions and measures at	No specific measures identified. Handle substance within a closed system.	

process level (source) to prevent release		
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	No specific measures identified. Store substance within a closed system.	
Organizational measures to prevent/limit release from site	Use in closed systems; no intended release into environment.	
Conditions and measures related to municipal sewage treatment plant	Size of STP	>2000 m ³ /day
	Degradation efficacy	90%
	Sludge treatment	Disposal or recovery
Conditions and measures related to treatment of waste	All waste products are assumed to be collected and returned for re-processing or re-use. Contain and dispose of waste in accordance with environmental legislation and according to local regulations.	

2. Exposure estimation

Workers exposure estimation is calculated with Ecetoc TRA model v2..

Workers exposure	Exposure estimate	DNEL	Comment
Inhalation (mg/m ³)	38,42	950	-
Dermal (mg/kg/day)	1,71	343	
Combined (mg/kg/day)	7,20	343	

Environmental exposure estimation is based on Ecetoc TRA model v2. Below values are estimates based on the ERC9a approach calculation. Ethanol is fully soluble in water, readily biodegradable, not bio-accumulative, does not accumulate in the sediments or soil and is assumed to degrade by 90% in the municipal STP under evaluated conditions.

Release times per year (day/year)	365	Local release to air (kg/day)	~ 0 (negligible)
Fraction used at main local source	0,1	Local release to sewage (kg/day)	~ 0 (negligible)
Amount used locally (kg/day)	5,5	Local release to soil (kg/day)	~ 0 (negligible)
Environmental exposure	PEC	PNEC	Comment
In STP (mg/l)	~ 0 (negligible)	580	-
In local freshwater (mg/l)	0,0107	0,96	-
In local soil (mg/kg)	0,0002	0,63 (mg/kgwwt)	-
In local marine water (mg/l)	0,0010	0,79	-
Total daily intake via local environment (mg/kgdw/d)	Negligible compared to daily dietary intake and endogenous formation.		

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 algorithm below to estimate the correct local emissions and RCRs:
 $PEC_{corrected} = PEC_{calculated} * (\text{local emission fraction}) * (\text{local WWTP flow rate fraction}) * (\text{local river flow rate fraction}) * (\text{local STP efficiency fraction})$

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.